STATE OF CALIFORNIA-DEPARTMENT OF TRANSPORTATION

STRUCTURAL QUANTITY SURVEY AND MARGINAL ESTIMATE

DS-D 0019 (REV. 02/11/08)

RECEIVED IN ESTIMATE SECTION BY	DATE
QUANTITIES BY	DATE
R. Washington / S. Morimoto	5/14/2012
CHECKED BY	DATE
G. Reyes-Gutierrez/ R. Melko	05/14/12
REVISED BY	DATE
S. Morimoto	05/30/12
APPROVED BY	DATE

CHARGE	EXPENDITURE AUTHORIZATION	BRIDGE NUMBER		LENGTH	
6	06-2HT201	X	EFIS 0612000329-1		

BRIDGE		WIDTH	LONG SPAN	SPANS
Retaining Wall #2,4,6		na	na	na

DISTRICT	COUNTY	ROUTE	PM	TYPE	DEPTH	SKEW	DESIGN SECTION
6	Fre	99		Type 1 RW	na	na	6

CODE	CONTRACT ITEMS	UNIT	SUPERSTRUCTURE			SUBSTRUCTURE			OTHER ELEMENTS-Retaining Wall 2,4,6			TOTALS	PRICE	AMOUNT
			QUANTITY	CHECK	* USE	QUANTITY	CHECK	* USE	QUANTITY	CHECK	* USE	* USE		
	STRUCTURE EXCAVATION (RETAINING WALL)	CY							2,641	2,671				
	STRUCTURE BACKFILL (RETAINING WALL)	CY							1,687	1,708				
	BAR REINFORCING STEEL (RETAINING WALL)	LB							91,841	92,167				
	STRUCTURAL CONCRETE, RETAINING WALL	CY							702	703				
	ARCHITECTURAL TREATMENT	SQFT							2,494	2,414				
	PREPARE AND STAIN CONCRETE	SQFT							806	806				
	MINOR CONCRETE (GUTTER)	LF							240	240				
	METAL PICKET RAILING	LF							765	765				
	RETAINING WALL REMOVAL (PORTION)	CY							147	143				

QUANTITY PER GIRDER					
	LENGTH OF PC PS GIRDER				
	CUBIC YARDS PCC				
	POUNDS BAR REINFORCING				
	POUNDS PRESTRESS STEEL				
	NUMBER OF GIRDERS				

*** ESTIMATING BRANCH TO INPUT**

MOBILIZATION %	$
SUB TOTAL-CONTRACT ITEMS	
CONTINGENCIES %	
SUPPLEMENTAL WORK	
TOTAL	$
FOR BUDGET PURPOSES-SAY	$

STATE OF CALIFORNIA-DEPARTMENT OF TRANSPORTATION

CONCRETE SUMMARY

DS-D-0050 (REV. 02/11/08)

Estimating Section to Forward to RE Pending File

STRUCTURE	BRIDGE NUMBER	EA	DISTRICT	COUNTY	ROUTE	CALCULATED BY	CHECKED BY
Retaining Wall #2,4,6	X	06-2HT201	6	Fre	99	R. Washington / S. Morimoto	G. Reyes-Gutierrez/ R. Melko

SUPERSTRUCTURE	ESTIMATE	CHECK	**SUBSTRUCTURE**	ESTIMATE	CHECK	**RETAINING WALLS**	ESTIMATE	CHECK
Top Slab			Abutments			Struct Conc. Retaining Wall	699	700
Overhang								
Bottom Slab								
Bottom Slab Flares								
Girders - Interior								
Girders - Exterior			Wingwalls			**TOTAL CY (RW)**	699	700
Girder Flares								
Fillets						**OTHER**	ESTIMATE	CHECK
Closure Pour						Approach Slab (Type)		
						Slope Paving		
End Diaphragms			Columns - Piers			PEDESTAL	2.78	2.76
Caps								
			TOTAL CY (SUB)	0	0	**TOTAL CY (OTHER)**	2.78	2.76
			Footings			**BREAKDOWN BY CONCRETE TYPES**		
Hinges							ESTIMATE	CHECK
						Struct Conc. Bridge Footing		
						Struct Concrete Bridge		
						Struct Conc. Retaining Wall	699	700
						Struct Conc., Other	2.78	2.76
TOTAL CY (SUPER)	0	0	**FOOTING TOTAL CY**	0	0	**TOTAL CY**	702	703

STATE OF CALIFORNIA-DEPARTMENT OF TRANSPORTATION

SUMMARY-STRUCTURE EXCAVATION AND STRUCTURE BACKFILL

DS-D-0022 (REV. 02/11/08)

Estimating Section to forward to RE Pending File

STRUCTURE				BRIDGE NUMBER	DATE	CALCULATED BY
Retaining Wall #2,4,6					5/14/2012	S. Morimoto
DISTRICT	COUNTY	ROUTE	EA NUMBER			CHECKED BY
6	Fre	99	06-2HT201			G. Reyes-Gutierrez

LOCATION	STRUCTURE EXCAVATION		STRUCTURE BACKFILL		PERVIOUS BACKFILL MATERIAL	
	ESTIMATE	CHECK	ESTIMATE	CHECK	ESTIMATE	CHECK
Retaining Wall #2,4,6	2641	2671	1687	1708		
TOTAL CY	**2641**	**2671**	**1687**	**1708**	**0**	**0**

STATE OF CALIFORNIA-DEPARTMENT OF TRANSPORTATION

BAR REINFORCING SUMMARY

Estimating Section to Forward to RE Pending File

STRUCTURE	BRIDGE NO.	EA	DISTRICT	COUNTY	ROUTE	CALCULATED BY	CHECKED BY
RW 2,4,6	0	0	6	Fresno	99	Rachel Washington	G. Reyes-Gutierrez

BAR SIZE		SUPERSTRUCTURE		SUBSTRUCTURE		RETAINING WALLS			
		ESTIMATE	CHECK	ESTIMATE	CHECK	ESTIMATE	CHECK	ESTIMATE	CHECK
3									
4						3 641	3 693		
5						39 036	39 341		
6						26 091	26 029		
7						11 631	11 656		
8						1 984	1 988		
9						7 658	7 653		
10									
11									
14									
18									
	INT DIAPHRAGM								
	RAIL								
99	WALL								
	HINGE								
SUBTOTAL						90 040	90 360		
2% SPLICES						1 801	1 807		
TOTAL						91 841	92 167		

NOTES

QUANTITIES

EA 06-2HT201

RETAINING WALL 2,4,6

MAY 30, 2012

High Speed Train

Retaining Wall #2,4,6

Bar Reinforcing Summary

EA: 06-2HT201
Estimator- Rachel Washington
Checker: Gloria Reyes-Gutierrez

STATE OF CALIFORNIA-DEPARTMENT OF TRANSPORTATION

BAR REINFORCING SUMMARY

Estimating Section to Forward to RE Pending File

STRUCTURE	BRIDGE NO.	EA	DISTRICT	COUNTY	ROUTE	CALCULATED BY	CHECKED BY
RW 2,4,6	0	0	6	Fresno	99	Rachel Washington	G. Reyes-Gutierrez

BAR SIZE		SUPERSTRUCTURE		SUBSTRUCTURE		RETAINING WALLS			
		ESTIMATE	CHECK	ESTIMATE	CHECK	ESTIMATE	CHECK	ESTIMATE	CHECK
3									
4						3 641	3 693		
5						39 036	39 341		
6						26 091	26 029		
7						11 631	11 656		
8						1 984	1 988		
9						7 658	7 653		
10									
11									
14									
18									
	INT DIAPHRAGM								
	RAIL								
99	WALL								
	HINGE								
SUBTOTAL						90 040	90 360		
2% SPLICES						1 801	1 807		
TOTAL						91 841	92 167		

NOTES

BAR REINFORCING CHECK (CONT.)

STRUCTURE	BRIDGE NO.	EA	CALCULATED BY	CHECKED BY
RW 2,4,6	0	0	Rachel Washington	G. Reyes-Gutierrez

BAR SIZE		RETAINING WALLS					
		ESTIMATE	CHECK	% DIFFERENCE	ESTIMATE	CHECK	% DIFFERENCE
3							
4		3 641	3 693	-1.4%			
5		39 036	39 341	-0.8%			
6		26 091	26 029	0.2%			
7		11 631	11 656	-0.2%			
8		1 984	1 988	-0.2%			
9		7 658	7 653	0.1%			
10							
11							
14							
18							
	INT DIAPHRAGM						
	RAIL						
99	WALL						
	HINGE						

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) **RW** PAGE 1 OF 11

		SOURCE		CHARGE		EXPENDITURE	SPECIAL DES
		DIST	UNIT	DIST	UNIT	AUTHORIZATION	*WHEN APPLICABLE*
Retaining Wall # 2		6	3591	6	0	0	0612000239-1

Retaining Wall # 2 Summary (see segments in below sheets)

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE										
				No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
Total # of Segments =		10												
Type 1 Retaining Wall Reinforcement Totals				0.0	2622.4	22414.8	11711.9	2284.0	0.0	1349.2	0.0	0.0	0.0	0.0
NOTE: For computing steel in Standard Retaining	TOTAL LENGTHS			0	2622	22415	11712	2284	0	1349	0	0	0	0
Wall from the charts, use 99 for size.	WT. PER FOOT			0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
Show lb/ft to nearest pound.	TOTAL WT. PER SIZE			**0**	**1,752**	**23,379**	**17,591**	**4,669**	**0**	**4,587**	**0**	**0**	**0**	**0**
	TOTAL WT. PER SHEET			**0**	**1,752**	**23,379**	**17,591**	**4,669**	**0**	**4,587**	**0**	**0**	**0**	**0**

BY	DATE	REMARKS		NAME		VERIFY
Rachel Washington	5/29/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**		
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**	
G. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) **RW** PAGE 2 OF 11

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 2	6	3591	6	0	0	0612000239-1

Segment 1 — **STA 11+99.38 to 12+80**

H= 10

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601E	6	100	15.00				1500.0							
602C #6 @9"	6	54	11.93				644.1							
501 #5@12"	5	41	8.70			356.7								
603C (none)														
502 #5 Tot 4	5	4	40.29			161.1								
503 #5@9"	5	54	5.26			284.1								
604D #6@9"	6	55	5.95				327.4							
504 #5@12"	5	8	40.29			322.3								
505 #5@9"	5	55	3.16			174.0								
506 #5@12"	5	6	40.29			241.7								
506S #5@18"	5	6	40.29			241.7								
405T #4@18"	4	6	40.29		241.7									
STEP														
507	5	6	7.25			43.5								
508	5	6	9.99			60.0								
NOTE: For computing steel in Standard Retaining Wall from the charts, use 99 for size. Show lb/ft to nearest pound. — TOTAL LENGTHS				0	242	1885	2471	0	0	0	0	0	0	0
WT. PER FOOT				0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
TOTAL WT. PER SIZE				**0**	**161**	**1,966**	**3,712**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL WT. PER SHEET				**0**	**161**	**1,966**	**3,712**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

BY	DATE	REMARKS	IN CASE OF QUESTION CONTACT:	NAME	VERIFY
Rachel Washington	5/29/2012			**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
G. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91)

RW

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 2	6	3591	6	0	0	0612000239-1

Segment 2

STA 12+40 to 12+80

H= 12

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601E														
602C #6 @9"	6	54	13.10				707.6							
501 #5@12"	5	40	9.67			386.7								
603C (none)														
502 #5 Tot 4	5	4	39.67			158.7								
503 #5@9"	5	54	5.81			313.7								
604D #6@9"	6	54	6.50				350.9							
504 #5@12"	5	10	39.67			396.7								
505 #5@9"	5	54	3.33			179.8								
506 #5@12"	5	6	39.67			238.0								
506S #5@18"	5	6	39.67			238.0								
405T #4@18"	4	6	39.67		238.0									
STEP														
507	5	8	8.00			64.0								
508	5	7	11.33			79.3								
TOTAL LENGTHS				0	238	2055	1059	0	0	0	0	0	0	0
WT. PER FOOT				0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
TOTAL WT. PER SIZE				**0**	**159**	**2,143**	**1,590**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL WT. PER SHEET				**0**	**159**	**2,143**	**1,590**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

NOTE: For computing steel in Standard Retaining Wall from the charts, use 99 for size.

Show lb/ft to nearest pound.

BY	DATE	REMARKS		NAME	VERIFY
Rachel Washington	5/29/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
G. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) **RW** PAGE 4 OF 11

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 2	6	3591	6	0	0	0612000239-1

Segment 3 — **STA 12+80 to 13+20**

H= 14

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601E														
602C #6 @7"	6	69	15.13				1043.6							
501 #5@12"	5	40	11.37			454.8								
603C (none)														
502 #5 Tot 4	5	4	39.67			158.7								
503 #5@7"	5	69	6.51			449.1								
604D #6@7"	6	69	7.99				551.2							
504 #5@12"	5	12	39.67			476.0								
505 #5@7"	5	69	3.83			264.5								
506 #5@12"	5	8	39.67			317.4								
506S #5@18"	5	7	39.67			277.7								
405T #4@18"	4	7	39.67		277.7									
STEP														
507	5	6	9.25			55.5								
508	5	7	9.67			67.7								
TOTAL LENGTHS				0	278	2521	1595	0	0	0	0	0	0	0
WT. PER FOOT				0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
TOTAL WT. PER SIZE				**0**	**185**	**2,630**	**2,395**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL WT. PER SHEET				**0**	**185**	**2,630**	**2,395**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

NOTE: For computing steel in Standard Retaining Wall from the charts, use 99 for size.

Show lb/ft to nearest pound.

BY	DATE	REMARKS	IN CASE OF QUESTION CONTACT:	NAME	VERIFY
Rachel Washington	5/29/2012			**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER** / **DATE**	
G. Reyes-Gutierrez	5/29/2012			916-227-0721 / 5/29/2012	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91)

RW

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 2	6	3591	6	0	0	0612000239-1

Segment 4

STA 13+20 to 13+40

H= 14

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601E														
602C #6 @7"	6	34	15.71				534.1							
501 #5@12"	5	20	11.86			237.1								
603C (none)														
502 #5 Tot 4	5	4	19.67			78.7								
503 #5@7"	5	34	6.48			220.3								
604D #6@7"	6	34	7.96				270.6							
504 #5@12"	5	10	19.67			196.7								
505 #5@7"	5	34	3.83			130.3								
506 #5@12"	5	6	19.67			118.0								
506S #5@18"	5	7	19.67			137.7								
405T #4@18"	4	7	19.67		137.7									
STEP														
507	5	6	9.25			55.5								
508	5	7	9.67			67.7								
TOTAL LENGTHS				0	138	1242	805	0	0	0	0	0	0	0
WT. PER FOOT				0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
TOTAL WT. PER SIZE				**0**	**92**	**1,295**	**1,209**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL WT. PER SHEET				**0**	**92**	**1,295**	**1,209**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

NOTE: For computing steel in Standard Retaining Wall from the charts, use 99 for size.

Show lb/ft to nearest pound.

BY	DATE	REMARKS		NAME	VERIFY
Rachel Washington	5/29/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
G. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DSD 0110 (REV 8/91)

RW

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 2	6	3591	6	0	0	0612000239-1

Segment 5

STA 13+40 to 13+60

H= 14

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601E														
602C #6 @7"	6	34	16.84				572.4							
501 #5@12"	5	20	12.76			255.1								
603C (none)														
502 #5 Tot 4	5	4	19.67			78.7								
503 #5@7"	5	34	6.44			219.0								
604D #6@7"	6	34	7.75				263.6							
504 #5@12"	5	10	19.67			196.7								
505 #5@7"	5	34	3.83			130.3								
506 #5@12"	5	6	19.67			118.0								
506S #5@18"	5	8	19.67			157.4								
405T #4@18"	4	8	19.67		157.4									
TOTAL LENGTHS				0	157	1155	836	0	0	0	0	0	0	0
WT. PER FOOT				0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
TOTAL WT. PER SIZE				**0**	**105**	**1,205**	**1,256**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL WT. PER SHEET				**0**	**105**	**1,205**	**1,256**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

NOTE: For computing steel in Standard Retaining Wall from the charts, use 99 for size. Show lb/ft to nearest pound.

BY	DATE	REMARKS	IN CASE OF QUESTION CONTACT:	NAME	VERIFY
Rachel Washington	5/29/2012			**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
G. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) RW

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 2	6	3591	6	0	0	0612000239-1

Segment 6

STA 13+60 to 13+80

H= 16

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601E														
702C #7 @6"	7	20	16.58					331.5						
501 #5@12"	5	20	12.05			240.9								
703C Short c bars	7	20	11.62					232.3						
502 #5 Tot 4	5	4	19.67			78.7								
503 #5@6"	5	40	7.14			285.5								
904D #9@6"	9	40	8.45							337.9				
504 #5@12"	5	12	19.67			236.0								
505 #5@9"	5	40	4.33			173.2								
506 #5@12"	5	8	19.67			157.4								
506S #5@18" Zone 1	5	4	19.67			78.7								
506S #5@12" Zone 2	5	6	19.67			118.0								
405T #4@18"	4	8	19.67		157.4									
STEP														
507	5	6	10.42			62.5								
508	5	8	10.67			85.4								
TOTAL LENGTHS				0	157	1516	0	564	0	338	0	0	0	0
WT. PER FOOT				0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
TOTAL WT. PER SIZE				**0**	**105**	**1,581**	**0**	**1,152**	**0**	**1,149**	**0**	**0**	**0**	**0**
TOTAL WT. PER SHEET				**0**	**105**	**1,581**	**0**	**1,152**	**0**	**1,149**	**0**	**0**	**0**	**0**

NOTE: For computing steel in Standard Retaining Wall from the charts, use 99 for size. Show lb/ft to nearest pound.

	DATE	REMARKS		NAME	VERIFY
Rachel Washington	5/29/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**	
CHECK	DATE			BUSINESS PHONE NUMBER	DATE
C. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91)

RW

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 2	6	3591	6	0	0	0612000239-1

Segment 7

STA 13+80 to 14+40

H= 16

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601E														
702C #7 @6"	7	60	17.04					1022.1						
501 #5@12"	5	60	12.49			749.2								
703C Short c bars	7	60	11.64					698.1						
502 #5 Tot 4	5	4	59.67			238.7								
503 #5@6"	5	120	7.12			854.2								
904D #9@6"	9	120	8.43							1011.4				
504 #5@12"	5	12	59.67			716.0								
505 #5@9"	5	120	4.33			519.6								
506 #5@12"	5	8	59.67			477.4								
505S #5@18" Zone 1	5	4	59.67			238.7								
506S #5@12" Zone 2	5	6	59.67			358.0								
405T #4@18"	4	8	59.67		477.4									
STEP														
507	5	6	10.42			62.5								
508	5	8	9.35			74.8								
NOTE: For computing steel in Standard Retaining	TOTAL LENGTHS			0	477	4289	0	1720	0	1011	0	0	0	0
Wall from the charts, use 99 for size.	WT. PER FOOT			0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
Show lb/ft to nearest pound.	TOTAL WT. PER SIZE			**0**	**319**	**4,474**	**0**	**3,516**	**0**	**3,439**	**0**	**0**	**0**	**0**
	TOTAL WT. PER SHEET			**0**	**319**	**4,474**	**0**	**3,516**	**0**	**3,439**	**0**	**0**	**0**	**0**

BY	DATE	REMARKS		NAME	VERIFY
Rachel Washington	5/29/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
G. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91)

RW

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 2	6	3591	6	0	0	0612000239-1

Segment 8

STA 14+40 to 15+00

H= 14

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601E														
602C #6 @7"	6	103	15.47				1593.6							
501 #5@12"	5	60	11.47			688.2								
603C (none)														
502 #5 Tot 4	5	4	59.67			238.7								
503 #5@7"	5	103	6.49			668.9								
604D #6@7"	6	103	7.80				803.8							
504 #5@12"	5	12	59.67			716.0								
505 #5@7"	5	103	3.83			394.8								
506 #5@12"	5	8	59.67			477.4								
506S #5@18"	5	7	59.67			417.7								
405T #4@18"	4	7	59.67		417.7									
STEP														
507	5	8	9.25			74.0								
508	5	7	10.99			77.0								
TOTAL LENGTHS				0	418	3753	2397	0	0	0	0	0	0	0
WT. PER FOOT				0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
TOTAL WT. PER SIZE				**0**	**279**	**3,914**	**3,601**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL WT. PER SHEET				**0**	**279**	**3,914**	**3,601**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

NOTE: For computing steel in Standard Retaining Wall from the charts, use 99 for size.

Show lb/ft to nearest pound.

BY	DATE	REMARKS		NAME	VERIFY
Rachel Washington	5/29/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
G. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) RW

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 2	6	3591	6	0	0	0612000239-1

Segment 9 — **STA 14+40 to 15+00**

H= 14

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601E														
602C #6 @7"	6	69	15.67				1081.2							
501 #5@12"	5	40	11.66			466.3								
603C (none)														
502 #5 Tot 4	5	4	39.67			158.7								
503 #5@7"	5	69	6.49			447.5								
604D #6@7"	6	69	7.80				537.9							
504 #5@12"	5	10	39.67			396.7								
505 #5@7"	5	69	3.83			264.5								
506 #5@12"	5	8	39.67			317.4								
506S #5@18"	5	7	39.67			277.7								
405T #4@18"	4	7	39.67		277.7									
TOTAL LENGTHS				0	278	2329	1619	0	0	0	0	0	0	0
WT. PER FOOT				0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
TOTAL WT. PER SIZE				**0**	**185**	**2,429**	**2,432**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL WT. PER SHEET				**0**	**185**	**2,429**	**2,432**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

NOTE: For computing steel in Standard Retaining Wall from the charts, use 99 for size. Show lb/ft to nearest pound.

BY	DATE	REMARKS		NAME	VERIFY
Rachel Washington	5/29/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
G. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) RW

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 2	6	3591	6	0	0	0612000239-1

Segment 10 — **STA 15+40 to 15+74.59**

H= 12

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601E														
602C #6 @9"	6	46	13.74				632.0							
501 #5@12"	5	35	10.28			359.7								
603C (none)														
502 #5 Tot 4	5	4	34.26			137.0								
503 #5@9"	5	46	5.78			266.0								
604D #6@9"	6	46	6.47				297.8							
504 #5@12"	5	10	34.26			342.6								
505 #5@9"	5	46	3.33			153.2								
506 #5@12"	5	6	34.26			205.5								
506S #5@18"	5	6	34.26			205.5								
405T #4@18"	4	7	34.26		239.8									

NOTE: For computing steel in Standard Retaining		No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
	TOTAL LENGTHS	0	240	1670	930	0	0	0	0	0	0	0
Wall from the charts, use 99 for size.	WT. PER FOOT	0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
Show lb/ft to nearest pound.	TOTAL WT. PER SIZE	**0**	**160**	**1,741**	**1,397**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL WT. PER SHEET	**0**	**160**	**1,741**	**1,397**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

BY	DATE	REMARKS		NAME	VERIFY
Rachel Washington	5/29/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
C. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91)

RW

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 2	6	3591	6	0	0	0612000239-1

Segment 11

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601E														
602C														
501														
603C														
502														
503														
604D														
504														
505														
506														
506S														
405T														

NOTE: For computing steel in Standard Retaining		No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
Wall from the charts, use 99 for size.	TOTAL LENGTHS	0	0	0	0	0	0	0	0	0	0	0
Show lb/ft to nearest pound.	WT. PER FOOT	0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
	TOTAL WT. PER SIZE	0	0	0	0	0	0	0	0	0	0	0
	TOTAL WT. PER SHEET	0	0	0	0	0	0	0	0	0	0	0

BY	DATE	REMARKS		NAME	VERIFY
Rachel Washington	5/29/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
G. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) **RW** PAGE 13 OF 11

		SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 2		6	3591	6	0	0	0612000239-1
Segment 12							

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601E														
602C														
501														
603C														
502														
503														
604D														
504														
505														
506														
506S														
405T														

NOTE: For computing steel in Standard Retaining		No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
	TOTAL LENGTHS	0	0	0	0	0	0	0	0	0	0	0
Wall from the charts, use 99 for size.	WT. PER FOOT	0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
Show lb/ft to nearest pound.	TOTAL WT. PER SIZE	0	0	0	0	0	0	0	0	0	0	0
	TOTAL WT. PER SHEET	0	0	0	0	0	0	0	0	0	0	0

BY	DATE	REMARKS		NAME	VERIFY
Rachel Washington	5/29/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
G. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) **RW** PAGE 1 OF 4

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 4	6	3591	6	0	0	0612000239-1

Retaining Wall # 4 Summary (see segments in below sheets)

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
Total # of Segments =		3												
Type 1 Retaining Wall Reinforcement Totals				0.0	1007.0	6895.8	4722.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NOTE: For computing steel in Standard Retaining Wall from the charts, use 99 for size. Show lb/ft to nearest pound.	TOTAL LENGTHS			0	1007	6896	4722	0	0	0	0	0	0	0
	WT. PER FOOT			0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
	TOTAL WT. PER SIZE			**0**	**673**	**7,192**	**7,093**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL WT. PER SHEET			**0**	**673**	**7,192**	**7,093**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

BY	DATE	REMARKS		NAME	VERIFY
Rachel Washington	5/29/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
G. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) **RW** PAGE 2 OF 4

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 4	6	3591	6	0	0	0612000239-1

Segment 1 — **STA 11+24 to 11+80**

H= 8

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601E	6	60	15.00				900.0							
602C #6 @9"	6	75	12.57				942.8							
501 #5@12"	5	57	9.39			535.1								
603C (none)														
502 #5 Tot 4	5	4	55.67			222.7								
503 #5@9"	5	75	4.98			373.7								
604D #6@9"	6	75	5.67				425.5							
504 #5@12"	5	8	55.67			445.4								
505 #5@9"	5	75	3.08			231.2								
506 #5@12"	5	6	55.67			334.0								
506S #5@18"	5	6	55.67			334.0								
405T #4@18"	4	6	55.67		334.0									
STEP														
507	5	6	6.92			41.5								
508	5	6	10.53			63.2								
TOTAL LENGTHS				0	334	2581	2268	0	0	0	0	0	0	0
WT. PER FOOT				0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
TOTAL WT. PER SIZE				**0**	**223**	**2,692**	**3,407**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL WT. PER SHEET				**0**	**223**	**2,692**	**3,407**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

NOTE: For computing steel in Standard Retaining Wall from the charts, use 99 for size. Show lb/ft to nearest pound.

BY	DATE	REMARKS	IN CASE OF QUESTION CONTACT:	NAME	VERIFY
Rachel Washington	5/29/2012			**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
G. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91)

RW

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 4	6	3591	6	0	0	0612000239-1

Segment 2

STA 11+80 to 12+56

H= 10

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601E	6						0.0							
602C #6 @9"	6	102	15.10				1540.4							
501 #5@12"	5	76	11.66			885.9								
603C (none)														
502 #5 Tot 4	5	4	75.67			302.7								
503 #5@9"	5	102	5.05			515.2								
604D #6@9"	6	102	5.74				585.6							
504 #5@12"	5	8	75.67			605.4								
505 #5@9"	5	102	3.16			322.6								
506 #5@12"	5	6	75.67			454.0								
506S #5@18"	5	8	75.67			605.4								
405T #4@18"	4	8	75.67		605.4									
STEP														
507	5	6	3.44			20.6								
508	5	6	10.21			61.3								
TOTAL LENGTHS				0	605	3773	2126	0	0	0	0	0	0	0
WT. PER FOOT				0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
TOTAL WT. PER SIZE				**0**	**404**	**3,935**	**3,193**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL WT. PER SHEET				**0**	**404**	**3,935**	**3,193**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

NOTE: For computing steel in Standard Retaining Wall from the charts, use 99 for size.

Show lb/ft to nearest pound.

BY	DATE	REMARKS	IN CASE OF QUESTION CONTACT:	NAME	VERIFY
Rachel Washington	5/29/2012			**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
G. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91)

RW

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 4	6	3591	6	0	0	0612000239-1

Segment 3

STA 12+56 to 12+66

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
H= 12														
ITEM	SIZE	NO.	LENGTH											
601E	6						0.0							
602C #6 @9"	6	14	17.55				245.7							
501 #5@12"	5	10	13.94			139.4								
603C (none)														
502 #5 Tot 4	5	4	9.67			38.7								
503 #5@9"	5	14	5.63			78.8								
604D #6@9"	6	13	6.32				82.2							
504 #5@12"	5	10	9.67			96.7								
505 #5@9"	5	13	3.33			43.3								
506 #5@12"	5	6	9.67			58.0								
506S #5@18"	5	9	9.67			87.0								
405T #4@18"	4	7	9.67		67.7									
				0	68	542	328	0	0	0	0	0	0	0
				0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
Show lb/ft to nearest pound.		TOTAL WT. PER SIZE		0	45	565	493	0	0	0	0	0	0	0
		TOTAL WT. PER SHEET		0	45	565	493	0	0	0	0	0	0	0

BY	DATE	REMARKS		NAME	VERIFY
Rachel Washington	5/29/2012		IN CASE OF QUESTION CONTACT:	Richard Melko	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
G. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) **RW** PAGE 5 OF 4

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 4	6	3591	6	0	0	0612000239-1
Segment 4						

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601E														
602C														
501														
603C														
502														
503														
604D														
504														
505														
506														
506S														
405T														

NOTE: For computing steel in Standard Retaining		No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
	TOTAL LENGTHS	0	0	0	0	0	0	0	0	0	0	0
Wall from the charts, use 99 for size.	WT. PER FOOT	0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
Show lb/ft to nearest pound.	TOTAL WT. PER SIZE	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL WT. PER SHEET	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

BY	DATE	REMARKS	IN CASE OF QUESTION CONTACT:	NAME	VERIFY
Rachel Washington	5/29/2012			**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
G. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) **RW** PAGE 6 OF 4

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 4	6	3591	6	0	0	0612000239-1
Segment 5						

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601E														
602C														
501														
603C														
502														
503														
604D														
504														
505														
506														
505S														
405T														

NOTE: For computing steel in Standard Retaining		No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
Wall from the charts, use 99 for size.	TOTAL LENGTHS	0	0	0	0	0	0	0	0	0	0	0
Show lb/ft to nearest pound.	WT. PER FOOT	0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
	TOTAL WT. PER SIZE	0	0	0	0	0	0	0	0	0	0	0
	TOTAL WT. PER SHEET	0	0	0	0	0	0	0	0	0	0	0

BY	DATE	REMARKS	IN CASE OF QUESTION CONTACT:	NAME	VERIFY
Rachel Washington	5/29/2012			**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
G. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91)

RW

		SOURCE		CHARGE		EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
		DIST	UNIT	DIST	UNIT		
Retaining Wall # 4		6	3591	6	0	0	0612000239-1
Segment 6							

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE										
				No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601E														
602C														
501														
603C														
502														
503														
604D														
504														
505														
506														
506S														
405T														
TOTAL LENGTHS				0	0	0	0	0	0	0	0	0	0	0
WT. PER FOOT				0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
TOTAL WT. PER SIZE				0	0	0	0	0	0	0	0	0	0	0
TOTAL WT. PER SHEET				0	0	0	0	0	0	0	0	0	0	0

NOTE: For computing steel in Standard Retaining Wall from the charts, use 99 for size.

Show lb/ft to nearest pound.

BY	DATE	REMARKS	IN CASE OF QUESTION CONTACT:	NAME	VERIFY
Rachel Washington	5/29/2012			Richard Melko	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
G. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) **RW** PAGE 8 OF 4

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 4	6	3591	6	0	0	0612000239-1
Segment 7						

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601E														
602C														
501														
603C														
502														
503														
604D														
504														
505														
506														
506S														
405T														

NOTE: For computing steel in Standard Retaining Wall from the charts, use 99 for size. Show lb/ft to nearest pound.

	No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
TOTAL LENGTHS	0	0	0	0	0	0	0	0	0	0	0
WT. PER FOOT	0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
TOTAL WT. PER SIZE	0	0	0	0	0	0	0	0	0	0	0
TOTAL WT. PER SHEET	0	0	0	0	0	0	0	0	0	0	0

BY	DATE	REMARKS	IN CASE OF QUESTION CONTACT:	NAME	VERIFY
Rachel Washington	5/29/2012			**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
G. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91)

RW

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 4	6	3591	6	0	0	0612000239-1
Segment 8						

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601E														
602C														
501														
603C														
502														
503														
604D														
504														
505														
506														
506S														
405T														

NOTE: For computing steel in Standard Retaining Wall from the charts, use 99 for size.

Show lb/ft to nearest pound.

	No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
TOTAL LENGTHS	0	0	0	0	0	0	0	0	0	0	0
WT. PER FOOT	0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
TOTAL WT. PER SIZE	0	0	0	0	0	0	0	0	0	0	0
TOTAL WT. PER SHEET	0	0	0	0	0	0	0	0	0	0	0

BY	DATE	REMARKS	IN CASE OF QUESTION CONTACT:	NAME	VERIFY
Rachel Washington	5/29/2012			Richard Melko	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
G. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91)

RW

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 4	6	3591	6	0	0	0612000239-1
Segment 9						

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601E														
602C														
501														
603C														
502														
503														
604D														
504														
505														
506														
506S														
405T														

NOTE: For computing steel in Standard Retaining		No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
Wall from the charts, use 99 for size.	TOTAL LENGTHS	0	0	0	0	0	0	0	0	0	0	0
	WT. PER FOOT	0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
Show lb/ft to nearest pound.	TOTAL WT. PER SIZE	0	0	0	0	0	0	0	0	0	0	0
	TOTAL WT. PER SHEET	0	0	0	0	0	0	0	0	0	0	0

BY	DATE	REMARKS	IN CASE OF QUESTION CONTACT:	NAME	VERIFY
Rachel Washington	5/29/2012			**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
G. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91)

RW

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 4	6	3591	6	0	0	0612000239-1

Segment 10

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601E														
602C														
501														
603C														
502														
503														
604D														
504														
505														
506														
506S														
405T														
TOTAL LENGTHS				0	0	0	0	0	0	0	0	0	0	0
WT. PER FOOT				0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
TOTAL WT. PER SIZE				0	0	0	0	0	0	0	0	0	0	0
TOTAL WT. PER SHEET				0	0	0	0	0	0	0	0	0	0	0

NOTE: For computing steel in Standard Retaining Wall from the charts, use 99 for size.

Show lb/ft to nearest pound.

BY	DATE	REMARKS	IN CASE OF QUESTION CONTACT:	NAME	VERIFY
Rachel Washington	5/29/2012			Richard Melko	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
G. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91)

RW

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 4	6	3591	6	0	0	0612000239-1
Segment 11						

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601E														
602C														
501														
603C														
502														
503														
604D														
504														
505														
506														
506S														
405T														

NOTE: For computing steel in Standard Retaining		No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
Wall from the charts, use 99 for size.	TOTAL LENGTHS	0	0	0	0	0	0	0	0	0	0	0
	WT. PER FOOT	0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
Show lb/ft to nearest pound.	TOTAL WT. PER SIZE	0	0	0	0	0	0	0	0	0	0	0
	TOTAL WT. PER SHEET	0	0	0	0	0	0	0	0	0	0	0

BY	DATE	REMARKS	IN CASE OF QUESTION CONTACT:	NAME	VERIFY
Rachel Washington	5/29/2012			**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
G. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) **RW** PAGE 13 OF 4

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 4	6	3591	6	0	0	0612000239-1
Segment 12						

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601E														
602C														
501														
603C														
502														
503														
604D														
504														
505														
506														
506S														
405T														

NOTE: For computing steel in Standard Retaining		No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
Wall from the charts, use 99 for size.	TOTAL LENGTHS	0	0	0	0	0	0	0	0	0	0	0
	WT. PER FOOT	0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
Show lb/ft to nearest pound.	TOTAL WT. PER SIZE	0	0	0	0	0	0	0	0	0	0	0
	TOTAL WT. PER SHEET	0	0	0	0	0	0	0	0	0	0	0

BY	DATE	REMARKS		NAME	VERIFY
Rachel Washington	5/29/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
G. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91)

RW

		SOURCE		CHARGE		EXPENDITURE	SPECIAL DES
		DIST	UNIT	DIST	UNIT	AUTHORIZATION	*WHEN APPLICABLE*
Retaining Wall # 4		6	3591	6	0	0	0612000239-1
Pedestal Rebar							

ITEM	SIZE	NO.	LENGTH	No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
				TOTAL LENGTH - EACH SIZE										
#4 @ 6"	4	10	13.16		131.6									
#4 @ 6"	4	10	23.82		238.2									
NOTE: For computing steel in Standard Retaining	TOTAL LENGTHS			0	370	0	0	0	0	0	0	0	0	0
Wall from the charts, use 99 for size.	WT. PER FOOT			0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
Show lb/ft to nearest pound.	TOTAL WT. PER SIZE			**0**	**247**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL WT. PER SHEET			**0**	**247**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

BY	DATE	REMARKS	IN CASE OF QUESTION CONTACT:	NAME		VERIFY
Rachel Washington	5/30/2012			**Richard Melko**		
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**	
G. Reyes-Gutierrez	5/30/2012			916-227-0721	5/30/2012	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) **RW** PAGE 1 OF

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 6	6	3591	6	0	0	0612000239-1

Retaining Wall # 6 Summary (see segments in below sheets)

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
Total # of Segments =		3												
Type 1 Retaining Wall Reinforcement Totals				0.0	1081.7	8116.1	936.5	3406.3	743.1	903.0	0.0	0.0	0.0	0.0

NOTE: For computing steel in Standard Retaining		No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
Wall from the charts, use 99 for size.	TOTAL LENGTHS	0	1082	8116	937	3406	743	903	0	0	0	0
Show lb/ft to nearest pound.	WT. PER FOOT	0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
	TOTAL WT. PER SIZE	**0**	**723**	**8,465**	**1,407**	**6,962**	**1,984**	**3,070**	**0**	**0**	**0**	**0**
	TOTAL WT. PER SHEET	**0**	**723**	**8,465**	**1,407**	**6,962**	**1,984**	**3,070**	**0**	**0**	**0**	**0**

BY	DATE	REMARKS		NAME	VERIFY
Rachel Washington	5/29/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
G. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) **RW** PAGE 2 OF

		SOURCE		CHARGE		EXPENDITURE	SPECIAL DES
		DIST	UNIT	DIST	UNIT	AUTHORIZATION	*WHEN APPLICABLE*
Retaining Wall # 6		6	3591	6	0	0	0612000239-1
Segment 1		**STA 13+37.23 to 13+45**					

H= 14				TOTAL LENGTH - EACH SIZE										
ITEM	SIZE	NO.	LENGTH	No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601E	6	40	15.00				600.0							
602C #6 @7"	6	13	18.19				236.5							
501 #5@12"	5	8	14.08			112.6								
603C (none)														
502 #5 Tot 4	5	4	7.44			29.7								
503 #5@7"	5	13	6.34			82.5								
604D #6@7"	6	13	7.70				100.0							
504 #5@12"	5	10	7.44			74.4								
505 #5@7"	5	13	3.83			49.8								
506 #5@12"	5	8	7.44			59.5								
506S #5@18"	5	9	7.44			66.9								
405T #4@18"	4	9	7.44		66.9									
STEP														
507	5	8	9.25			74.0								
508	5	8	13.83			110.7								
NOTE: For computing steel in Standard Retaining	TOTAL LENGTHS			0	67	660	937	0	0	0	0	0	0	0
Wall from the charts, use 99 for size.	WT. PER FOOT			0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
Show lb/ft to nearest pound.	TOTAL WT. PER SIZE			**0**	**45**	**688**	**1,407**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL WT. PER SHEET			**0**	**45**	**688**	**1,407**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

BY	DATE	REMARKS		NAME		VERIFY
Rachel Washington	5/29/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**		
CHECK	DATE			BUSINESS PHONE NUMBER	DATE	
G. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) RW PAGE 3 OF

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 6	6	3591	6	0	0	0612000239-1

Segment 2 — **STA 13+45 to 14+00**

H= 16

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601E	6						0.0							
702C #7 @6"	7	55	22.82					1255.3						
501 #5@12"	5	55	17.76			976.6								
703C Short c bars	7	55	11.85					652.0						
502 #5 Tot 4	5	4	54.67			218.7								
503 #5@6"	5	110	6.90			758.9								
904D #9@6"	9	110	8.21							903.0				
504 #5@12"	5	12	54.67			656.0								
505 #5@9"	5	110	4.33			476.3								
506 #5@12"	5	8	54.67			437.4								
506S #5@18" Zone 1	5	6	54.67			328.0								
506S #5@12" Zone 2	5	8	54.67			437.4								
405T #4@18"	4	11	54.67		601.4									
TOTAL LENGTHS				0	601	4289	0	1907	0	903	0	0	0	0
WT. PER FOOT				0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
TOTAL WT. PER SIZE				**0**	**402**	**4,474**	**0**	**3,899**	**0**	**3,070**	**0**	**0**	**0**	**0**
TOTAL WT. PER SHEET				**0**	**402**	**4,474**	**0**	**3,899**	**0**	**3,070**	**0**	**0**	**0**	**0**

NOTE: For computing steel in Standard Retaining Wall from the charts, use 99 for size. Show lb/ft to nearest pound.

BY	DATE	REMARKS	IN CASE OF QUESTION CONTACT:	NAME	VERIFY
Rachel Washington	5/29/2012			**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
G. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) **RW** PAGE 4 OF

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 6	6	3591	6	0	0	0612000239-1

Segment 3 — **STA 14+00 to 14+34.78**

H= 18

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601E	6						0.0							
702C #7 @6"	7	42	23.25					976.5						
501 #5@12"	5	35	17.98			629.2								
703C Short c bars	7	42	12.44					522.5						
502 #5 Tot 4	5	4	34.45			137.8								
503 #5@6"	5	83	7.89			655.1								
804D #8@5"	8	83	8.95						743.1					
504 #5@12"	5	14	34.45			482.3								
505 #5@9"	5	83	4.83			401.1								
506 #5@12"	5	10	34.45			344.5								
506S #5@18" Zone 1	5	6	34.45			206.7								
506S #5@12" Zone 2	5	9	34.45			310.0								
405T #4@18"	4	12	34.45		413.4									
NOTE: For computing steel in Standard Retaining — TOTAL LENGTHS				0	413	3167	0	1499	743	0	0	0	0	0
Wall from the charts, use 99 for size. — WT. PER FOOT				0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
Show lb/ft to nearest pound. — TOTAL WT. PER SIZE				**0**	**276**	**3,303**	**0**	**3,064**	**1,984**	**0**	**0**	**0**	**0**	**0**
TOTAL WT. PER SHEET				**0**	**276**	**3,303**	**0**	**3,064**	**1,984**	**0**	**0**	**0**	**0**	**0**

BY	DATE	REMARKS		NAME	VERIFY
Rachel Washington	5/29/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER** / **DATE**	
G. Reyes-Gutierrez	5/29/2012			916-227-0721 / 5/29/2012	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) **RW** PAGE 5 OF

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 6	6	3591	6	0	0	0612000239-1
Segment 4						

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601**E**														
602**C**														
501														
603**C**														
502														
503														
604**D**														
504														
505														
506														
506**S**														
405**T**														

NOTE: For computing steel in Standard Retaining		No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
Wall from the charts, use 99 for size.	TOTAL LENGTHS	0	0	0	0	0	0	0	0	0	0	0
Show lb/ft to nearest pound.	WT. PER FOOT	0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
	TOTAL WT. PER SIZE	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL WT. PER SHEET	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

BY	DATE	REMARKS		NAME	VERIFY
Rachel Washington	5/29/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER** / **DATE**	
G. Reyes-Gutierrez	5/29/2012			916-227-0721 / 5/29/2012	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91)

RW

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 6	6	3591	6	0	0	0612000239-1
Segment 5						

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601E														
602C														
501														
603C														
502														
503														
604D														
504														
505														
506														
506S														
405T														

NOTE: For computing steel in Standard Retaining		No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
Wall from the charts, use 99 for size.	TOTAL LENGTHS	0	0	0	0	0	0	0	0	0	0	0
	WT. PER FOOT	0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
Show lb/ft to nearest pound.	TOTAL WT. PER SIZE	0	0	0	0	0	0	0	0	0	0	0
	TOTAL WT. PER SHEET	0	0	0	0	0	0	0	0	0	0	0

BY	DATE	REMARKS		NAME	VERIFY
Rachel Washington	5/29/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
G. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91)

RW

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 6	6	3591	6	0	0	0612000239-1
Segment 6						

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601E														
602C														
501														
603C														
502														
503														
604D														
504														
505														
506														
506S														
405T														
NOTE: For computing steel in Standard Retaining	TOTAL LENGTHS			0	0	0	0	0	0	0	0	0	0	0
Wall from the charts, use 99 for size.	WT. PER FOOT			0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
Show lb/ft to nearest pound.	TOTAL WT. PER SIZE			0	0	0	0	0	0	0	0	0	0	0
	TOTAL WT. PER SHEET			0	0	0	0	0	0	0	0	0	0	0

BY	DATE	REMARKS		NAME	VERIFY
Rachel Washington	5/29/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
G. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91)

RW

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 6	6	3591	6	0	0	0612000239-1
Segment 7						

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601**E**														
602**C**														
501														
603**C**														
502														
503														
604**D**														
504														
505														
506														
506**S**														
405**T**														
NOTE: For computing steel in Standard Retaining	TOTAL LENGTHS			0	0	0	0	0	0	0	0	0	0	0
Wall from the charts, use 99 for size.	WT. PER FOOT			0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
Show lb/ft to nearest pound.	TOTAL WT. PER SIZE			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL WT. PER SHEET			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

BY	DATE	REMARKS	IN CASE OF QUESTION CONTACT:	NAME	VERIFY
Rachel Washington	5/29/2012			**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
G. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) **RW** PAGE 9 OF

		SOURCE		CHARGE		EXPENDITURE	SPECIAL DES
		DIST	UNIT	DIST	UNIT	AUTHORIZATION	*WHEN APPLICABLE*
Retaining Wall # 6		6	3591	6	0	0	0612000239-1
Segment 8							

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE										
				No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601E														
602C														
501														
603C														
502														
503														
604D														
504														
505														
506														
506S														
405T														
NOTE: For computing steel in Standard Retaining Wall from the charts, use 99 for size. Show lb/ft to nearest pound.	TOTAL LENGTHS			0	0	0	0	0	0	0	0	0	0	0
	WT. PER FOOT			0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
	TOTAL WT. PER SIZE			0	0	0	0	0	0	0	0	0	0	0
	TOTAL WT. PER SHEET			0	0	0	0	0	0	0	0	0	0	0

BY	DATE	REMARKS		NAME	VERIFY
Rachel Washington	5/29/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER** / **DATE**	
G. Reyes-Gutierrez	5/29/2012			916-227-0721 / 5/29/2012	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) **RW** PAGE 10 OF

	SOURCE		CHARGE		EXPENDITURE	SPECIAL DES
	DIST	UNIT	DIST	UNIT	AUTHORIZATION	*WHEN APPLICABLE*
Retaining Wall # 6	6	3591	6	0	0	0612000239-1

Segment 9

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE										
				No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601E														
602C														
501														
603C														
502														
503														
604D														
504														
505														
506														
506S														
405T														
NOTE: For computing steel in Standard Retaining	TOTAL LENGTHS			0	0	0	0	0	0	0	0	0	0	0
Wall from the charts, use 99 for size.	WT. PER FOOT			0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
Show lb/ft to nearest pound.	TOTAL WT. PER SIZE			0	0	0	0	0	0	0	0	0	0	0
	TOTAL WT. PER SHEET			0	0	0	0	0	0	0	0	0	0	0

BY	DATE	REMARKS		NAME	VERIFY
Rachel Washington	5/29/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
G. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) **RW** PAGE 11 OF

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 6	6	3591	6	0	0	0612000239-1
Segment 10						

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601E														
602C														
501														
603C														
502														
503														
604D														
504														
505														
506														
506S														
405T														

NOTE: For computing steel in Standard Retaining		No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
Wall from the charts, use 99 for size.	TOTAL LENGTHS	0	0	0	0	0	0	0	0	0	0	0
Show lb/ft to nearest pound.	WT. PER FOOT	0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
	TOTAL WT. PER SIZE	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL WT. PER SHEET	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

BY	DATE	REMARKS	IN CASE OF QUESTION CONTACT:	NAME	VERIFY
Rachel Washington	5/29/2012			**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
G. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) **RW** PAGE 5 OF

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 6	6	3591	6	0	0	0612000239-1

Pedestal Rebar

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
#4 @ 6"	4	10	13.16		131.6									
#4 @ 6"	4	10	23.82		238.2									

NOTE: For computing steel in Standard Retaining		No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
	TOTAL LENGTHS	0	370	0	0	0	0	0	0	0	0	0
Wall from the charts, use 99 for size.	WT. PER FOOT	0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
Show lb/ft to nearest pound.	TOTAL WT. PER SIZE	**0**	**247**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL WT. PER SHEET	**0**	**247**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

BY	DATE	REMARKS		NAME	VERIFY
Rachel Washington	5/30/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
G. Reyes-Gutierrez	5/30/2012			916-227-0721	5/30/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91)

RW

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 6	6	3591	6	0	0	0612000239-1

Segment 11

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601E														
602C														
501														
603C														
502														
503														
604D														
504														
505														
506														
506S														
405T														

NOTE: For computing steel in Standard Retaining		No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
Wall from the charts, use 99 for size.	TOTAL LENGTHS	0	0	0	0	0	0	0	0	0	0	0
Show lb/ft to nearest pound.	WT. PER FOOT	0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
	TOTAL WT. PER SIZE	0	0	0	0	0	0	0	0	0	0	0
	TOTAL WT. PER SHEET	0	0	0	0	0	0	0	0	0	0	0

BY	DATE	REMARKS	IN CASE OF QUESTION CONTACT:	NAME	VERIFY
Rachel Washington	5/29/2012			**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
G. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91)

RW

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 6	6	3591	6	0	0	0612000239-1
Segment 12						

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
601E														
602C														
501														
603C														
502														
503														
604D														
504														
505														
506														
506S														
405T														

NOTE: For computing steel in Standard Retaining Wall from the charts, use 99 for size.
Show lb/ft to nearest pound.

	No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
TOTAL LENGTHS	0	0	0	0	0	0	0	0	0	0	0
WT. PER FOOT	0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
TOTAL WT. PER SIZE	0	0	0	0	0	0	0	0	0	0	0
TOTAL WT. PER SHEET	0	0	0	0	0	0	0	0	0	0	0

BY	DATE	REMARKS		NAME	VERIFY
Rachel Washington	5/29/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
G. Reyes-Gutierrez	5/29/2012			916-227-0721	5/29/2012

STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION

QUANTITY CALCULATIONS

DC-CEM-4801 (OLD HC-52 REV. 11/92) 7541-3520-0 SHEET 1 OF 3

JOB STAMP

Segment (1) H=10

11+99.38 to 12+40

ITEM Rebar Quantities

LOCATION RW# 2

CALC BY Rachel Washington

CHK BY

FILE NO EA 06 2HT201

SEGREGATION YES ☐ NO ☐

DATE

DATE 5-18-12

H= 7.70' W= 7.58' B= 5.25' C= 2.33' L=40.62

2"= 0.167' 3"= 0.25' 4"= 0.333' 9"= 0.75' F= 1.33'

X= 1.321'

602C #6@9"

Bar Length= (7.70 - 0.167) + (1.33 - 0.25) = 8.61'

Hook = (2.33 + 1.321 - 0.333) = 3.318'

# of bars = (40.62 - 0.333) ÷ 0.75' = 53 + 1 = 54 bars

501 #5@12"

Bar Length= (7.70 + 1.33 - 0.333) = 8.70

# of bars = (40.62 - 0.333) ÷ 1 = 40 + 1 = 41 bars

502 #5 To+4

Bar Length= (40.62 - 0.333) = 40.287'

503 #5@9"

Bar Length= (5.25 - 1.321 + 1.5 - 0.167') = 5.262'

# of bars = (40.62 - 0.333') ÷ 0.75' = 53 + 1 = 54 bars

POSTED BY DATE POSTED TO

JOB STAMP

ITEM Rebar Quantities
LOCATION RW#2
CALC. BY
CHK. BY Rachel Washington
FILE NO. EA 06 2HT201
SEGREGATION YES NO
DATE
DATE 5-10-12

Segment ① H=10

ϕ#6=0.75"=0.0625'

H=7.70' B=5.25 C=2.33' 9"=0.75' 18"=1.5'

X=1.321 (35*0.0625')=2.19 L=40.62'

604D #6@9"

Bar Length=[(5.25-1.321+2.19)]-0.167=5.952

# of bars=(40.62-0.333)÷0.75'=54+1=55 bars

504 #5@12"

Bar Length=(40.62-0.333)=40.29'

# of bars=(5.25-1.321-0.167)÷1=(3+1)(2rows)=8 bar.

505 #5@9"

Bar Length=(2.33+1)-0.167=3.163'

# of bars=(40.62'-0.333)÷0.75'=54+1=55 bars

506 #5@12"

Bar Length=(40.62-0.333)=40.287'

# of bars=(2.33-0.167)÷1=(2+1)(2rows)=6 bars

506S #5@18"

Bar Length=(40.62-0.333)=40.287'

# of bars=(7.70-0.333)÷1.5=5+1=6 bars

JOB STAMP

ITEM: Rebar Quantities
LOCATION: RW#2
CALC. BY:
CK. BY: Rachel Washington
FILE NO.: EA06-2HT201
SEGREGATION: YES ☐ NO ☐
DATE:
DATE: 5-11-12

Segment (1) H=10

W=7.58 F=1.33'

H= 7.70 4"=0.333' 10"=0.833' 16"=1.33' 18"=1.5'

L=40.62'

405T #4@18"

Bar Length= (40.62-0.333)=40.287'

# of bars= (7.70-0.333)÷1.5'=5+1=6 bars

601E #6@10" x 15'-0"

Bar Length= 15'

507 #5@16" H_{step}= 1.33+2.00=3.33

Bar Length= (7.58 -0.333)= 7.247'

# of bars=(3.33-0.333)÷1.33'=(2+1)(2sets)= 6 bars

508 #5 2'-0" @16"

Bar Length= 2[(3.33-0.333)+2]= 9.994

#of bars=[(7.58-0.333')÷1.33]=5+1=6bars

POSTED BY DATE POSTED TO

JOB STAMP

Segment ② H=12

ITEM Rebar Quantities
LOCATION RW#2
CALC BY
CHK BY Rachel Washington

FILE NO. EA 06-2HT201
SEGREGATION YES NO
DATE
DATE 5-18-12

12+40 to 12+80

H= 8.50 W=8.33' B=5.83' C=2.50 L=40

2"=0.167' 3"=0.25' 4"=0.333' 9"=0.75' F=1.5'

X=1.354'

602C #6@9"

Bar Length=(8.50-0.167)+(1.5-0.25)=9.583'

Hook=(2.5+1.354-0.333)=3.521'

# of bars=(40-0.333)÷0.75'=53+1=54 bars

501 #5@12"

Bar Length=(8.50+1.50-0.333)=9.667'

# of bars=(40-0.333)÷1=39+1=40 bars

502 #5 To+4

Bar Length=(40-0.333)=39.67'

# of bars=4

503 #5@9"

Bar Length=(5.83-1.354+1.5-0.167)=5.809'

# of bars=(40-0.333)÷0.75=53+1=54 bars

JOB STAMP

ITEM Rebar Quantities
LOCATION RW# 2
CALC BY
CHK BY Rachel Washington
FILE NO EA 06-2HT201
SEGREGATION YES NO
DATE
DATE 5-18-12

Segment (2) #=12
L=40
ϕ #6=0.75"=0.0625'

H=8.50' B=5.83' C=2.50' 9"=0.75' 18"=1.5' X=1.354'

604D #6@9" (35 * 0.0625') = 2.19'

Bar Length=[(5.83-1.354'+2.19]-0.167=6.499

# of bars = (40-0.333) ÷ 0.75' = 53 +1 = 54 bars

504 #5@12"

Bar Length=(40-0.333)= 39.67'

# of bars = (5.83'-1.354-0.167) ÷ 1=(4+1)(2sets)=10 sets

505 #5@9"

Bar Length=(2.50+1)-0.167=3.33'

# of bars=(40 0.333) ÷ 0.75' = 53+1= 54 bars

506 #5@12"

Bar Length=(40-0.333)= 39.67'

# of bars = (2.50-0.167') ÷ 1=(2+1)(2rows)=6 bars

506S #5@18"

Bar Length=(40-0.333)= 39.67'

# of bars=(8.50-0.333)÷1.5'= 5+1= 6 bars

POSTED BY DATE POSTED TO

JOB STAMP

Segment ② H=12
L=40

ITEM Rebar Quantities
LOCATION RW#2
CALC BY Rachel Washington
CHK BY
FILE NO EA 06-2HT201
SEGREGATION YES NO
DATE
DATE 5-18-12

H= 8.50 W=8.33' 4"=0.333' 10"=0.833' 16"=1.33'
18"=1.5' f=1.5'

405T #4@18"

Bar Length=(40-0.333)=39.67'

# of bars=(8.50-0.333)÷1.5=5+1=6 bars

601E #6@10" x 15'-0"

507 #5@16" H_{step}= 1.50+(270.5-268)=4.0

Bar Length=(8.33-0.333)=7.997'

# of bars=(4.0-0.333)÷1.33'=(3+1)(2sets)=8 bars

508 #5 $\left|\overset{2'-0"}{\_\_\_\_}\right.$ @16"

Bar Length=2[(4.0'-0.333)+2]=11.334'

# of bars=[(8.33-0.333)÷1.33']=6+1=7 bars

STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION

QUANTITY CALCULATIONS

DC-CEM-4801 (OLD HC-52 REV. 11/92) 7541-3520-0

SHEET 1 OF 3

JOB STAMP

ITEM: Rebar Quantities | FILE NO: EA 06-2HT20

LOCATION: RW#2 | SEGREGATION: YES ☐ NO ☐

CALC. BY: | DATE:

CHK. BY: Rachel Washington | DATE: 5-21-12

Segment (3) H=14

12+80 to 13+20

H=9.80 W=9.58' B=6.583' C=3.0' L=40.0

2"=0.167' 3"=0.25' 4"=0.333' 9"=0.75' F=1.67'

X=1.408

602C #6@7"

Bar Length=(9.80-0.167')+(1.67-0.25')=11.05'

Hook=(3.0+1.408-0.333)=4.075'

# of bars=(40-0.333)÷0.583'= 68+1= 69 bars

501 #5@12"

Bar Length=(9.80+1.67-0.333)= 11.137'

# of bars=(40-0.333)÷1= 39+1= 40 bars

502 #5 Tot 4

Bar Length=(40-0.333)= 39.67

# of bars=4

503 #5@7"

Bar Length=(6.583'-1.408+1.5-0.167)=6.508'

# of bars=(40-0.333)÷0.583'= 68+1= 69 bars

POSTED BY DATE POSTED TO

CEM-4801 (HC-52 REV. 11/92)

JOB STAMP

ITEM Rebar Quantities | EA 06-2HT201
LOCATION RW#2 | SEGREGATION YES NO
CALC BY | DATE
CHK BY Rachel Washington | DATE 5-21-12

Segment ③ H=14
L=40
Ø#6=0.75"=0.0625'

H=9.80 B=6.583' c=3.0' 7"=0.583' 18"=1.5' x=1.408

604D #6@7" (45 * 0.0625')= 2.813

Bar Length=[(6.583-1.408+2.813)]= 7.988'

# of bars=(40-0.333)÷0.583'= 68+1= 69 bars

504 #5@12"

Bar Length=(40-0.333)= 39.67'

# of bars=(6.583'-1.408'-0.167)÷1=(5+1)(2sets)=12 bars

505 #5@7"

Bar Length=(3.00+1)-0.167=3.833'

# of bars=(40-0.333)÷0.583'=68+1=69 bars

506 #5@12"

Bar Length=(40-0.333)= 39.67'

# of bars=(3.00-0.167')÷1=(3+1)(2rows)=8 bars

506S #5@18"

Bar Lengths=(40-0.333)= 39.67'

# of bars=(9.80-0.333)÷1.5'=6+1=7bars

JOB STAMP

ITEM Rebar Quantities | FILE NO EA 06-2HT201
LOCATION RW # 2 | SEGREGATION YES NO
CALC BY | DATE
CHK BY Rachel Washington | DATE 5-21-12

Segment (3) H = 14
L = 40

H = 9.80 W = 9.58 4" = 0.333' 10" = 0.833' 16" = 1.33'
18" = 1.5' F = 1.67'

405T #4 @ 18"

Bar Length = (40 - 0.333) = 39.67'

# of bars = (9.80 - 0.333) ÷ 1.5' = 6 + 1 = 7 bars

601E #6 @ 10" x 15'-0"

507 #5 @ 16" H_{step} = 1.67 + 1.50 = 3.17'

Bar Length = (9.58' - 0.333) = 9.247'

# of bars = (3.17 - 0.333) ÷ 1.33' = (2+1)(2sets) = 6 bars

508 #5 2'-0" @ 16"

Bar Length = 2[(3.17' - 0.333) + 2] = 9.674'

# of bars = [(9.58 - 0.333) ÷ 1.33'] = 6 + 1 = 7 bars

POSTED BY DATE POSTED TO

JOB STAMP

Segment (A) H=14

13+20 to 13+40

ITEM Rebar Quantities
LOCATION KW#2
CALC. BY
CHK. BY Rachel Washington

FILE NO EA 06-2HT201
SEGREGATION YES NO
DATE
DATE 5-21-12

H=10.52 W=9.58 B=6.583 C=3.0 L=20

2"=0.167' 3"=0.25' 4"=0.333' 7"=0.583' F=1.67

X=1.438

602C #6@7"

Bar Length=(10.52-0.167)+(1.5-0.25')=11.603'

Hook=(3.0+1.438-0.333)=4.105'

# of bars=(20-0.333)÷0.583'=33+1=34 bars

501 #5@12"

Bar Length=(10.52+1.67-0.333)=11.857'

# of bars=(20-0.333)÷1=19+1=20 bars

502 #5 To+4

Bar Length=(20-0.333)=19.67'

# of bars=4

503 #5@7"

Bar Length=(6.583'-1.438+1.5-0.167)=6.478'

# of bars=(20-0.333)÷0.583'=33+1=34 bars

POSTED BY DATE POSTED TO

STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION

QUANTITY CALCULATIONS

DC-CEM-4801 (OLD HC-52 REV. 11/92) 7541-3520-0

JOB STAMP

ITEM: Rebar Quantities | FILE NO: EA 06-2HT201

LOCATION: RW#2 | SEGREGATION: YES ☐ NO ☐

CALC. BY | DATE

CHK. BY: Rachel Washington | DATE: 5-21-12

Segment (4) H=14 L=20

Ø#6=0.75"=0.0625'

H=10.52' B=6.583 C=3.0' 7"=0.583' 18"=1.5' X=1.438

6040 #6@7" (45x 0.0625') = 2.813

Bar Length = [(6.583-1.438+2.813)] = 7.958

# of bars = (20-0.333) ÷ 0.583' = 33+1 = 34 bars

504 #5@12"

Bar Length = (20-0.333) = 19.67'

# of bars = (6.583-1.438-0.167) ÷ 1 = (4+1)(2sets) = 10 bars

505 #5@7"

Bar Length = (3.00+1)-0.167 = 3.833'

# of bars = (20+0.333) ÷ 0.583' = 33+1 = 34 bars

506 #5@12"

Bar Length = (20-0.333) = 19.67'

# of bars = (3.00-0.167) ÷ 1 = (2+1)(2rows) = 6 bars

5065 #5@18"

Bar Lengths = (20-0.333) = 39.67

# of bars = (10.52-0.333) ÷ 1.5' = 6+1 = 7 bars

POSTED BY | DATE | POSTED TO

STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION

QUANTITY CALCULATIONS

DC-CEM-4801 (OLD HC-52 REV. 11/92) 7541-3520-0

JOB STAMP

Segment ④ H = 14
L = 20

Rebar Quantities

LOCATION RW # 2

CALC. BY

CHK. BY Rachel Washington

FILE NO. EA 06 2HT201

SEGREGATION YES ☐ NO ☐

DATE

DATE 5-11-12

H = 10.52 W = 9.58' 4" = 0.333' 10" = 0.833' 16" = 1.33'
18" = 1.5' F = 1.67'

405T #4@18"

Bar Length = (20 - 0.333) = 19.67'

# of bars = (10.52 - 0.333) ÷ 1.5' = 6 + 1 = 7 bars

601E #6 @ 10" x 15'-0"

507 #5@16" H_{step} = 1.50 + 1.67 = 3.17

Bar Length = (9.58 - 0.333) = 9.247

# of bars = (3.17 - 0.333) ÷ 1.33' = (2+1)(2sets) = 6 bars

508 #5 $\sqcap^{2'-0''}$ @16"

Bar Length = 2 [(3.17 - 0.333) + 2] = 9.674'

# of bars = [(9.58 - 0.333) ÷ 1.33'] = 6 + 1 = 7 bars

POSTED BY DATE POSTED TO

STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION

QUANTITY CALCULATIONS

DC-CEM-4801 (OLD HC-52 REV. 11/92) 7541-3520-0

SHEET 1 OF 3

JOB STAMP

ITEM Rebar Quantities

LOCATION RW #2

CALC. BY

CHK. BY Rachel Washington

FILE NO EA 06-2HT20

SEGREGATION YES NO

DATE

DATE 5-21-12

Segment ⑤ H=14

13+40 to 13+60

H= 11.42' W=9.58' B=6.583 C=3.0' L= 20

2"=0.167 3"=0.25' 4"=0.333' 7"=0.583" F=1.67'

X=1.476'

602C #6@7"

Bar Length=(11.42-0.167')+(1.67-0.25)=12.673

Hook=(3.0 + 1.476 -0.333)=4.143

# of bars=(20 -0.333)÷0.583'=33+1=34 bars

501 #5@12"

Bar Length=(11.42 + 1.67 -0.333)=12.757

# of bars=(20 -0.333)÷1= 19 +1 = 20 bars

502 #5 Tot 4

Bar Length=(20 -0.333')=19.67'

# of bars= 4

503 #5@ "

Bar Length=(6.583'-1.476+1.5-0.167')=6.44

# of bars=(20 - 0.333)÷0.583' = 33+1= 34 bars

POSTED BY DATE POSTED TO

CEM-4801 (HC-52 REV. 11/92)

JOB STAMP

Segment (5) H=14

Rebar Quantities RW#2

EA 06 2HT201

LOCATION

SEGREGATION YES NO

CALC BY

DATE

CK BY Rachel Washingtons DATE 5-11-2012

ϕ#6 = 0.75" = 0.0625'

H= 11.42 B=6.583' C=3.0' 7" = 0.583' 18" = 1.5'

X = 1.476' (45 * 0.0625) = 2.813' L = 20

604D #6@7"

Bar Length = [(6.583 - 1.476 + 2.813)] - 0.167' = 7.753'

# of bars = (20 - 0.333) ÷ 0.583' = 33+1 = 34 bars

504 #5@12"

Bar Length = (20 - 0.333) = 19.67'

# of bars = (6.583' - 1.476 - 0.167) ÷ 1 = (4+1)(2rows) = 10bars

505 #5@7"

Bar Length = (3.0 +1) - 0.167 = 3.833'

# of bars = (20 - 0.333) ÷ 0.583' = 33+1 = 34 bars

506 #5@12"

Bar Length = (20 - 0.333) = 19.67

# of bars = (3.00 - 0.333) ÷ 1.0' = (2+1)(2rows) = 6 bars

506S #5@18"

Bar Length = (20 - 0.333) = 19.67

# of bars = (11.42' - 0.333) ÷ 1.5' = 7+1 = 8 bars

POSTED BY DATE POSTED TO

JOB STAMP

ITEM Rebar Quantities
LOCATION RW#2
CALC. BY
CHK. BY Rachel Washington
FILE NO EA 06-2HT201
SEGREGATION YES NO
DATE
DATE 5-11-12

Segment (5) H = 14

W = 9.58 F = 1.67

H = 11.42' 4" = 0.333 10" = 0.833' 16" = 1.33' 18" = 1.5'

L = 20

405T #4@18"

Bar Length = (20 - 0.333) = 19.67'

# of bars = (11.42 - 0.333) ÷ 1.5' = 7+1 = 8 bars

601E #6@10" x 15'-0"

Bar Length = 15'

JOB STAMP

ITEM Rebar Quantities
EA 06-2HT201
LOCATION RW#2
SEGREGATION YES NO
CALC. BY
DATE
CHK. BY Rachel Washington
DATE 5-22-12

Segment (6) H = 16

13+60 to 13+80

H = 10.71' W = 10.75' B = 7.25' C = 3.50 L = 20'

2" = 0.167' 3" = 0.25' 4" = 0.333' 6" = 0.50' F = 1.67'

X = 1.446

702C #7@6"

Bar Length = (10.71' - 0.167) + (1.67 - 0.25') = 11.963'

Hook = (3.5 + 1.446 - 0.333) = 4.613'

# of bars = (20 - 0.333) ÷ 0.50' = $\left(\frac{39}{2}\right)$ + 1 = 20 bars

501 #5@12"

Bar Length = (10.71 + 1.67 - 0.333) = 12.047'

# of bars = (20 - 0.333) ÷ 1 = 19 + 1 = 20 bars

703C Short #7@6" h_1 = 5.75'

Bar Length = (5.75 - 0.167) + (1.67 - 0.25) = 7.003'

Hook = (3.5 + 1.446 - 0.333) = 4.613'

# of bars = (20 - 0.333) ÷ 0.5 = $\left(\frac{39}{2}\right)$ + 1 = 20 bars

502 #5 To + 4

Bar Length = (20 - 0.333) = 19.67' # of bars = 4

503 #5@6"

Bar Length = (7.25 - 1.446 + 1.50 - 0.167) = 7.137'

# of bars = (20 - 0.333) ÷ 0.5' = 39 + 1 = 40 bars

JOB STAMP

ITEM Rebar Quantities
LOCATION RW # 2
CALC. BY
CHK. BY Rachel Washington
FILE NO. EA 06-2HT201
SEGREGATION YES NO
DATE
DATE 5-22-12

Segment (6) H=16

ϕ#6 = 0.75" = 0.0625'

H=10.71' B=7.25' C=3.50 6"=0.50' 18"=1.5 L=20'

X=1.446 (45 * 0.0625') = 2.81

904D #9@6"

Bar Length = [(7.25 - 1.446 + 2.81)] - 0.167' = 8.447'

# of bars (20 - 0.333) ÷ 0.5' = 39+1 = 40 bars

504 #5@12"

Bar Length = (20 - 0.333) = 19.67'

# of bars = (7.25 - 1.446 - 0.167') ÷ 1 = (5+1)(2rows) = 12 bars

505 #5@6"

Bar Length = (3.50 + 1) - 0.167' = 4.33'

# of bars = (20 - 0.333) ÷ 0.5 = 39+1 = 40 bars

506 #5@12"

Bar Length = (20 - 0.333) = 19.67'

# of bars = (3.50 - 0.167) ÷ 1 = (3+1)(2rows) = 8 bars

506S #5@18" zone1

Bar Length = (20 - 0.333) = 19.67'

# of bars = $\left(\frac{10.71}{2} - 0.333\right) \div 1.5' = 3+1 = 4$ bars

506S #5@12" zone 2

Bar Length = (20 - 0.333) = 19.67'

# of bars = $\left(\frac{10.71}{2} - 0.333\right) \div 1 = 5+1 = 6$ bars

JOB STAMP

CEM Rebar Quantities
LOCATION RW # 2
CALC BY
CHK BY Rachel Washington
FILE NO
SEGREGATION YES NO
DATE
DATE 5-21-12

Segment (6) H=16

W=10.75 L=20'

H=10.71' 4"=0.333' 10"=0.833' 16"=1.33'

405T #4@18"

Bar Length = (20-0.333) = 19.67'

# of bars = (10.71-0.333) ÷ 1.5' = 7+1 = 8 bars

507 #5@16" H_{step} = 1.67+(265-263) = 3.67'

Bar Length = (10.75-0.333) = 10.417'

# of bars = (3.67-0.333) ÷ 1.33 = (2+1)(2sets) = 6 bars

508 #5 | 2'-0" | @16"

Bar Length = 2[(3.67-0.333)+2] = 10.674'

# of bars = [(10.75-0.333) ÷ 1.33] = 7+1 = 8 bars

JOB STAMP

ITEM Rebar Quantities
LOCATION RW # 2
CALC. BY
CHK. BY Rachel Washington
FILE NO EA 06 2H T201
SEGREGATION YES NO
DATE
DATE 5-21-12

Segment (7) H=16

13+80 to 14+40

H = 11.15' W = 10.75' B = 7.25' C = 3.50' L = 60

2" = 0.167' 3" = 0.25' 4" = 0.333' 6" = 0.50' F = 1.67'

X = 1.465'

702C #7@6"

Bar Length (11.15 - 0.167) + (1.67 - 0.25) = 12.403

Hook = (3.5 + 1.465 - 0.333) = 4.632'

# of bars = (60 - 0.333) ÷ 0.5' = $\left(\frac{119}{2}\right)$ + 1 = 60 bars

501 #5@12"

Bar Length = (11.15 + 1.67 - 0.333) = 12.487'

# of bars = (60 - 0.333) ÷ 1 = 59 + 1 = 60 bars

703C Short #7@6" h = 5.75'

Bar Length = (5.75 - 0.167) + (1.67 - 0.25) = 7.003'

Hook = (3.5 + 1.465 - 0.333) = 4.632'

# of bars = (60 - 0.333) ÷ 0.50' = $\left(\frac{119}{2}\right)$ + 1 = 60 bars

502 #5 To+4

Bar Length = (60 - 0.333) = 59.67'

# of bars = 4

503 #5@6"

Bar Length = (7.25 - 1.465 + 1.50 - 0.167) = 7.118'

# of bars = (60 - 0.333) ÷ 0.5 = 119 + 1 = 120 bars

JOB STAMP

ITEM Rebar Quantities
FILE NO EA 06 2HT201
LOCATION RW #2
SEGREGATION YES NO
CALC BY
DATE
CK BY Rachel Washington
DATE 5-21-12

Segment (7) H=16

ϕ#6 = 0.75" = 0.0625'

H=11.15 B=7.25' C=3.50' 6" = 0.50' 18" = 1.5' L=60

X=1.465 (45 * 0.0625') = 2.81'

904D #9@6"

Bar Length = [(7.25 - 1.465 + 2.81)] - 0.167 = 8.428'

# of bars = (60 - 0.333) ÷ 0.5 = 119 + 1 = 120 bars

504 #5@12"

Bar Length = (60 - 0.333) = 59.67'

# of bars = (7.25 - 1.465 - 0.167) ÷ 1 = (5 + 1)(2 rows) = 12 bars

505 #5@6"

Bar Length = (3.50 + 1) - 0.167 = 4.33'

# of bars = (60 - 0.333) ÷ 0.5 = 119 + 1 = 120 bars

506 #5@12"

Bar Length = (60 - 0.333) = 59.67

# of bars = (3.50 - 0.167) ÷ 1 = (3 + 1)(2 rows) = 8 bars

5065 #5@18" zone 1

Bar Length = (60 - 0.333) = 59.67'

# of bars = $\left(\frac{11.15}{2} - 0.333\right) \div 1.5 = 3 + 1 = 4$ bars

5065 #5@12" zone 2

Bar Length = (60 - 0.333) = 59.67'

# of bars = $\left(\frac{11.15}{2} - 0.333\right) \div 1 = 5 + 1 = 6$ bars

JOB STAMP

ITEM Repar Quantities
LOCATION RW #2
CALC. BY
CHK. BY Rachel Washington
FILE NO. EA 06 2HT201
SEGREGATION YES NO
DATE
DATE

Segment (7) H=16

W=10.75 L=60

H=11.15 4"=0.333 10"=0.833' 16"=1.33'

405T #4 @18"

Bar Length = (60-0.333) = 59.67'

# of bars = (11.15 - 0.333) ÷ 1.5' = (7+1) = 8

507 #5 @16" H_{Step} = 1.67 + (263 - 261.66) = 3.01

Bar Length = (10.75 - 0.333) = 10.417'

# of bars = [(3.01 - 0.333) ÷ 1.33] = (2+1)(2 sets) = 6 bars

508 #5 2'-0" @16"

Bar Length = 2[(3.01 - 0.333) + 2] = 9.354'

# of bars = [(10.75 - 0.333) ÷ 1.33] = 7+1 = 8 bars

STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION

QUANTITY CALCULATIONS

DC-CEM-4801 (OLD HC-52 REV. 11/92) 7541-3520-0

SHEET 1 OF 3

JOB STAMP

ITEM Rebar Quantities

LOCATION RW#2

CALC BY Rachel Washington

CHK BY

DATE 5-23-12

FED NO EA 06 2HT20

SEGREGATION YES NO

Segment (8) H=14

14+40 to 15+00

H=10.13' W=9.58 B=6.583 C=3.0 L=60

2"=0.167 3"=0.25' 4"=0.333' 7"=0.583" 9"=0.75'

X=1.422 F=1.67

602C #6 @7"

Bar Length=(10.13-0.167)+(1.67-0.25)=11.383

Hook=(3.0+1.422-0.333)=4.089'

# of bars=(60-0.333)÷0.583'=102+1=103 bars

501 #5 @12"

Bar Length=(10.13+1.67-0.333)=11.47

# of bars=(60-0.333)÷1=59+1=60 bars

502 #5 Tot 4

Bar Length=(60-0.333)=59.67'

# of bars=4

503 #5@7"

Bar Length=(6.583-1.422+1.5-0.167)=6.494'

# of bars=(60-0.333)÷0.583'=102+1=103 bars

POSTED BY DATE POSTED TO

CEM-4801 (HC-52 REV. 11/92)

STATE OF CALIFORNIA -- DEPARTMENT OF TRANSPORTATION

QUANTITY CALCULATIONS

DC-CEM-4801 (OLD HC-52 REV. 11/92) 7541-3520-0

JOB STAMP: Segment (8) H = 14

ITEM: Rebar Quantities

FILE NO: EA 06 2HT201

LOCATION: RW# 2

SEGREGATION YES / NO

CALC BY

DATE

CK BY: Rachel Washington

DATE: 5-23-12

ϕ #6 = 0.75" = 0.0625'

H = 10.13' B = 6.583 C = 3.0 9" = 0.75' 18" = 1.5'

X = 1.422 7" = 0.583' L = 60'

604D #6@7" (45* 0.0625') = 2.81

Bar Length = [(6.583 − 1.422 + 2.81)] − 0.167' = 7.804

# of bars = (60 − 0.333) ÷ 0.583' = 102 + 1 = 103 bars

504 #5@12"

Bar Length = (60 − 0.333) = 59.67'

# of bars = (6.583' − 1.422 − 0.167) ÷ 1 = (5+1)(2sets) = 12b.

505 #5@7"

Bar Length = (3.0 + 1) − 0.167 = 3.833'

# of bars = (60 − 0.333) ÷ 0.583' = 102 + 1 = 103 bars

506 #5@12"

Bar Length = (60 − 0.333) = 59.67'

# of bars = (3.0 − 0.167) ÷ 1 = (3+1)(2sets) = 8 bars

506S #5@18"

Bar Length = (60 − 0.333) = 59.67'

# of bars = (10.13 − 0.333) ÷ 1.5' = 6 + 1 = 7 bars

POSTED BY DATE POSTED TO

STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION

QUANTITY CALCULATIONS

DC-CEM-4801 (OLD HC-52 REV. 11/92) 7541-3520-0

SHEET 3 OF 3

JOB STAMP

Segment (8) H=14

L=60

Rebar Quantities

LOCATION RW # 2

FILE NO

SEGREGATION YES NO

CALC BY Rachel Washington

CHK BY

DATE 5-23-12

W=9.58 F=1.67'

H=10.13 4"=0.333' 10"=0.833' 16"=1.33' 18"=1.5'

405T #4@18"

Bar Length = (60 - 0.333) = 59.67'

# of bars = (10.13 - 0.333) ÷ 1.5 = 6+1 = 7 bars

507 #5@16" H_{Step} = 1.67 + (261.66 - 259.50) = 3.83'

Bar Length = (9.58 - 0.333) = 9.247'

# of bars = (3.83 - 0.333) ÷ 1 = (3+1)(2sets) = 8 bars

508 #5 2'-0" @16"

Bar Length = 2[(3.83 - 0.333) + 2] = 10.994

# of bars = [(9.58 - 0.333) ÷ 1.33] = 6+1 = 7 bars

POSTED BY DATE POSTED TO

CEM-4801 (HC-52 REV. 11/92)

STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION

QUANTITY CALCULATIONS

DC-CEM-4801 (OLD HC-52 REV. 11/92) 7541-3520-0

SHEET 1 OF 3

JOB STAMP

ITEM Rebar Quantities

LOCATION RW # 2

CALC BY Rachel Washington

CHK BY

DATE 5-23-12

EA 06 2HT201

SEGREGATION YES NO

DATE

Segment ⑨ H = 14

15+00 to 15+40

H = 10.32 W = 9.58 B = 6.583 C = 3.0' L = 40

2" = 0.167 3" = 0.25' 4" = 0.333' 7" = 0.583' 9" = 0.75'

X = 1.430 F = 1.67

602C #6@7"

Bar Length = (10.32 - 0.167) + (1.67 - 0.25) = 11.573

Hook = (3.0 + 1.430 - 0.333) = 4.097

# of bars = (40 - 0.333) ÷ 0.583' = 68 + 1 = 69 bars

501 #5@12"

Bar Length = (10.32 + 1.67 - 0.333) = 11.657'

# of bars = (40 - 0.333) ÷ 1 = 39 + 1 = 40 bars

502 #5 TOT 4

Bar Length = (40 - 0.333) = 39.67

# of bars = 4 bars

503 #5@7"

Bar Length = (6.583 - 1.430 + 1.5 - 0.167) = 6.486'

# of bars = (40 - 0.333) ÷ 0.583' = 68 + 1 = 69 bars

POSTED BY DATE POSTED TO

CEM-4801 (HC-52 REV. 11/92)

JOB STAMP

Segment (9) H = 14 — Rebar Quantities — EA 05 2HT201

LOCATION RW#2

CALC BY Rachel Washington DATE 5-23-12

SEGREGATION YES NO

DATE

Ø#6 = 0.75" = 0.0625'

H = 10.32 B = 6.583' C = 3.0 9" = 0.75' 18" = 1.5'

X = 1.430 7" = 0.583' L = 40

6040 #6@7" (45 * 0.0625') = 2.81

Bar Length = [(6.583 - 1.430 + 2.811] - 0.167 = 7.796'

# of bars = (40 - 0.333) ÷ 0.583' = 68 + 1 = 69 bars

504 #5@12"

Bar Length = (40 - 0.333) = 39.67'

# of bars = (6.583 - 1.430 - 0.167) ÷ 1 = (4+1)(2 sets) = 10 sets

505 #5@7"

Bar Length = (3.0 + 1) - 0.167 = 3.833'

# of bars = (40 - 0.333) ÷ 0.583 = 68 + 1 = 69 bars

506 #5@12"

Bar Length = (40 - 0.333) = 39.67'

# of bars = (3.0 - 0.167) ÷ 1 = (3+1)(2 sets) = 8 bars

506S #5@18"

Bar Length = (40 - 0.333) = 39.67'

# of bars = (10.32 - 0.333) ÷ 1.5' = 6 + 1 = 7 bars

JOB STAMP

Rebar Quantities

EA 06 2HT201

LOCATION

SEGREGATION YES NO

CALC. BY

DATE

CHK. BY

DATE

Segment ⑨ H=14

L=40

W=9.58' F=1.67'

H=10.32 4"=0.333' 10"=0.833' 16"=1.33 18"=1.5'

405T #4@18"

Bar Length=(40-0.333)=39.67'

# of bars = (10.32-0.333) ÷ 1.5 = 6 + 1 = 7 bars

STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION

QUANTITY CALCULATIONS

DC-CEM-4801 (OLD HC-52 REV. 11/92) 7541-3520-0

SHEET 1 OF 3

JOB STAMP

ITEM Rebar Quantities

LOCATION RW # 2

CALC BY Rachel Washington

CHK BY

FILE NO EA 06-2HT20

SEGREGATION YES NO

DATE

DATE 5-23-12

Segment (10) H=12

15+40 to 15+74.59

H=9.11 W=8.33' B=5.83' C=2.50' L=34.59'

2"=0.167' 3"=0.25 4"=0.333 9"=0.75' F=1.50

X=1.380

602C #6@9"

Bar Length = (9.11-0.167) + (1.5-0.25) = 10.193'

Hook = (2.5 + 1.380 - 0.333) = 3.547'

# of bars = (34.59 - 0.333) ÷ 0.75' = 45+1 = 46 bars

501 #5@12"

Bar Length = (9.11 + 1.50 - 0.333) = 10.277

# of bars = (34.59 - 0.333) ÷ 1 = 34+1 = 35 bars

502 #5 To+4

Bar Length = (34.59 - 0.333) = 34.257'

# of bars = 4

503 #5@9"

Bar Length = (5.83' - 1.380 + 1.5 - 0.167) = 5.783'

# of bars = (34.59 - 0.333) ÷ 0.75' = 46 bars

POSTED BY DATE POSTED TO

CEM-4801 (HC-52 REV. 11/92)

Segment (10) H=12 L=34.59'

ϕ#6 = 0.75" = 0.0625'

H= 9.11 B=5.83 C=2.50 9" = 0.75' 18" = 1.5' X= 1.380

604D #6@9" (35 * 0.0625') = 2.19'

Bar Length = [(5.83 - 1.380 + 2.19)] - 0.167 = 6.473

# of bars = (34.59 - 0.333) ÷ 0.75' = 45 + 1 = 46 bars

504 #5@12"

Bar Length = (34.59 - 0.333) = 34.257

# of bars = (5.83 - 1.380 - 0.167) ÷ 1 = (4+1)(2sets) = 10 bars

505 #5@9"

Bar Length = (2.50 + 1) - 0.167 = 3.33'

# of bars = (34.59 - 0.333) ÷ 0.75' = 45 + 1 = 46 bars

506 #5@12"

Bar Length = (34.59 - 0.333) = 34.257

# of bars = (2.50 - 0.167) ÷ 1 = (2+1)(2sets) = 6 bars

506S #5@18"

Bar Length = (34.59 - 0.333) = 34.257'

# of bars = (9.11 - 0.333) ÷ 1.5 = 5 + 1 = 6 bars

JOB STAMP

ITEM Rebar Quantities
LOCATION RW #2
CALC. BY Rachel Washington
CHK. BY
FILE NO EA 06-2HT20
SEGREGATION YES NO
DATE
DATE 5-24-12

Segment (10) H=12
L=34.59

H=9.11' W=8.33 4"=0.333' 10"=0.833' 16"=1.33'
18"=1.5'

40ST #4@18"

Bar Length=(34.59-0.333)= 34.257'

# of bars=(9.11-0.333)÷1.5'=6+1=7 bars

STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION

QUANTITY CALCULATIONS

DC-CEM-4801 (OLD HC-52 REV. 11/92) 7541-3520-0

SHEET 1 OF 3

JOB STAMP

ITEM: Rebar Quantities

FILE NO: EA 06-2HT201

LOCATION: RW#4

SEGREGATION: YES ☐ NO ☐

CALC BY:

DATE:

CK BY: Rachel Washington

DATE: 5-11-12

Segment (1) H=8

11+24 to 11+80

H=8.39 W=7.25 B=5.0 C=2.25' L=56'

2"=0.167' 3"=0.25' 4"=0.333' 9"=0.75' F=1.33'

X=1.350'

602C #6@9"

Bar Length = (8.39-0.167)+(1.33-0.25) = 9.303

Hook = (2.25+1.350-0.333) = 3.267'

# of bars = (56-0.333)÷0.75' = 74+1 = 75 bars

501 #5@12"

Bar Length = (8.39+1.33-0.333) = 9.387

# of bars = (56-0.333)÷1 = 56+1 = 57 bars

502 #5 To+4

Bar Length = (56-0.333) = 55.667'

# of bars = 4

503 #5@9"

Bar Length = (5-1.350+1.5-0.167) = 4.983'

# of bars = (56-0.333)÷0.75' = 74+1 = 75 bars

POSTED BY DATE POSTED TO

CEM-4801 (HC-52 REV. 11/92)

JOB STAMP

Segment (1) H = 8

ITEM: Rebar Quantities
LOCATION: RW #4
CALC. BY:
CHK. BY: Rachel Washington

FILE NO: EA 06 2HT201
SEGREGATION: YES ☐ NO ☐
DATE:
DATE: 5-11-12

ϕ #6 = 0.75" = 0.0625'

H = 8.39' B = 5.0' c = 2.25' 9" = 0.75' 18" = 1.5' x = 1.350

604D #6 @ 9" (35 * 0.0625') = 2.19' L = 56

Bar Length = [(5.0 - 1.350 + 2.19] - 0.167 = 5.673'

# of bars = (56 - 0.333) ÷ 0.75' = 74 + 1 = 75 bars

504 #5 @ 12"

Bar Length = (56 - 0.333) = 55.67

# of bars = (5 - 1.350 - 0.167) ÷ 1 = (3+1)(2 sets) = 8 bars

505 #5 @ 9"

Bar Length = (2.25 + 1) - 0.167 = 3.083'

# of bars = (56 - 0.333) ÷ 0.75' = 74 + 1 = 75 bars

506 #5 @ 12"

Bar Length = (56 - 0.333) = 55.67'

# of bars = (2.25 - 0.167) ÷ 1 = (2+1)(2 rows) = 6 bars

506S #5 @ 18"

Bar Length = (56 - 0.333) = 55.67'

# of bars = (8.39 - 0.333) ÷ 1.5' = 5 + 1 = 6 bars

JOB STAMP

Segment (1) H = 8

Rebar Quantities EA 06 2HT20

LOCATION RW # 4

SEGREGATION YES NO

CALC BY

DATE

CHK BY Rachel Washington DATE 5-11-12

W = 7.25' F = 1.33' L = 56

H = 8.39 4" = 0.333' 10" = 0.833' 16" = 1.33' 18" = 1.5'

405T #4 @ 18"

Bar Length = (56 - 0.333) = 55.67'

# of bars = (8.39 - 0.333) ÷ 1.5' = 5 + 1 = 6 bars

601E #6 @ 10" x 15'-0"

Bar Length = 15'

507 #5 @ 16" H_{step} = 1.33 + 0.94 + 1.33 = 3.60'

Bar Length = (7.25 - 0.333) = 6.917'

# of bars = (3.60 - 0.333) ÷ 1.33 = (2+1)(2 sets) = 6 bars

508 #5 $\lceil^{2'-0"}$ @ 16"

Bar Length = 2[(3.60 - 0.333) + 2] = 10.534'

# of bars = [(7.25 - 0.333) ÷ 1.33] = 5 + 1 = 6 bars

POSTED BY DATE POSTED TO

STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION

QUANTITY CALCULATIONS

DC-CEM-4801 (OLD RC-52 REV. 11/92) 7541-3520-0

SHEET 1 OF 3

JOB STAMP

ITEM Rebar Quantities EA 06 2HT201

LOCATION RW #4

FILE NO

SEGREGATION YES NO

CALC BY

DATE

CHK BY R Washington

DATE 5-11-12

Segment (2) H=10

11+80 to 12+56

H=10.66 W=7.58' B=5.25' C=2.33' L=76'

2"=0.167' 3"=0.25' 4"=0.333' 9"=0.75' F=1.33'

X=1.532

602C #6@9"

Bar Length=(10.66-0.167)+(1.33-0.25')=11.573

Hook=(2.33+1.532-0.333)=3.529'

# of bars=(76-0.333)÷0.75'=101+1=102 bars

501 #5@12"

Bar Length=(10.66+1.33-0.333)=11.657'

# of bars=(76-0.333)÷1=75+1=76 bars

502 #5 To+4

Bar Length=(76-0.333)=75.67'

# of bars=4

503 #5@9"

Bar Length=(5.25-1.532+1.5-0.167)=5.051'

# of bars=(76-0.333)÷0.75'=101+1=102 bars

POSTED BY DATE POSTED TO

CEM-4801 (RC-52 REV. 11/92)

JOB STAMP

ITEM Rebar Quantities
LOCATION Rw #4
CALC. BY
CHK. BY Rachel Washington
FILE NO. EA 06-2HT20
SEGREGATION YES NO
DATE
DATE 5-11-10

Segment (2) H=10
L=76

ϕ#6=0.75"=0.0625'

H=10.66 B=5.25' C=2.33' 9"=0.75' 18"=1.5'
X=1.532

604D #6@9"

Bar Length=[(5.25-1.532+2.19)]-0.167=5.741

#of bars=(76-0.333)÷0.75'=101+1=102 bars

504 #5@12"

Bar Length=(76-0.333)=75.67

#of bars=(5.25-1.532-0.167)÷1=(3+1)(2rows)=8bars

505 #5@9"

Bar Length=(2.33+1)-0.167=3.163'

#of bars=(76-0.333)÷0.75'=101+1=102 bars

506 #5@12"

Bar Length=(76-0.333)=75.67'

#of bars=(2.33-0.167)÷1=(2+1)(2rows)=6bars

506S #5@18"

Bar Length=(76-0.333)=75.67'

#of bars=(10.66-0.333)÷1.5'=7+1=8bars

JOB STAMP

ITEM Rebar Quantities
LOCATION RW #4
CALC BY
CHK BY
FILE NO
SEGREGATION YES NO
DATE
DATE

Segment (2) H = 10
L = 76
W = 7.25' F = 1.33'

H = 10.66 4" = 0.333' 10" = 0.833' 16" = 1.33'
18" = 1.5'

405T #4 @ 18"
Bar Length = (76 - 0.333') = 75.67'
# of bars = (10.66 - 0.333) ÷ 1.5 = 6 + 1 = 7 bars

601E #6 @ 10" x 15'-0"
Bar Length = 15

507 #5 @ 16" Hstep = 1.33 + 0.78 + 1.33 = 3.44
Bar Length = (7.25 - 0.333) = 6.92'
# of bars = (3.44 - 0.333) ÷ 1.33 = (2+1)(2sets) = 6 bars

508 #5 2'-0" @ 16"
Bar Length = 2[(3.44 - 0.333) + 2] = 10.214'
# of bars = [(7.25 - 0.333) ÷ 1.33] = 5 + 1 = 6 bars

POSTED BY DATE POSTED TO

STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION

QUANTITY CALCULATIONS

DC-CEM-4801 (OLD HC-52 REV. 11/92) 7541-3520-0

SHEET 1 OF 3

JOB STAMP

ITEM Rebar Quantities

LOCATION RW#4

CALC BY

CHK BY Rachel Washington

FILE NO EA 06-2HT20

SEGREGATION YES ☐ NO ☐

DATE

DATE 5-10-12

Segment (3) H=12

12+56 to 12+66

H=12.77' W=8.33' B=5.83' C=2.50 L=10

2"=0.167' 3"=0.25' 4"=0.333' 9"=0.75' F=1.5'

X=1.532

602C #6@9"

Bar Length=(12.77-0.167)+(1.5-0.25)=13.853'

Hook=(2.5+1.532-0.333)=3.699

# of bars=(10-0.333)÷0.75'=13+1=14 bars

501 #5@12"

Bar Length=(12.77'+1.50-0.333)=13.937'

# of bars=(10-0.333)÷1=9+1=10 bars

502 #5 To+4

Bar Length=(10-0.333)=9.67'

# of bars=4

503 #5@9"

Bar Length=(5.83-1.532+1.5-0.167)=5.631

# of bars=(10-0.333)÷0.75'=13+1=14 bars

POSTED BY DATE POSTED TO

CEM-4801 (HC 52 REV. 11/92)

JOB STAMP

Segment ③ H=12 L=10

JOB: Rebar Quantities FILE NO: EA 06-2HT20
LOCATION: RW #4 SEGREGATION: YES NO
CALC. BY: DATE:
CHK. BY: Rachel Washington DATE: 5-10-12

Ø#6 = 0.75" ÷ 0.0625'

H=12.77 B=5.83' C=2.50' 9" = 0.75' 18" = 1.5' X=1.532

LOAD #6@9" (35 * 0.0625') = 2.19'

Bar Length = [(5.83' - 1.532 + 2.19] - 0.167 = 6.321'

# of bars = (10 - 0.333) ÷ 0.75' = 12+1 = 13 bars

504 #5@12"

Bar Length = (10 - 0.333) = 9.67'

# of bars = (5.83 - 1.532 - 0.167) ÷ 1 = (4+1)(2sets) = 10 bars

505 #5@9"

Bar Length = (2.50+1) - 0.167 = 3.33'

# of bars = (10 - 0.333) ÷ 0.75' = 12+1 = 13 bars

506 #5@12"

Bar Length = (10 - 0.333) = 9.67'

# of bars = (2.50 - 0.167) ÷ 1 = (2+1)(2rows) = 6 bars

506S #5@18"

Bar Length = (10 - 0.333) = 9.67'

# of bars = (12.77 - 0.333) ÷ 1.5' = 8+1 = 9 bars

POSTED BY DATE POSTED TO

JOB STAMP

ITEM Rebar Quantities
LOCATION RW #4
CALC. BY
CHK. BY Rachel Washington

FILE NO EA 06-2HT20
SEGREGATION YES NO
DATE
DATE 5-10-12

Segment ③ H=12
L=10

H=12.77' W=8.33 4"=0.333' 10"=0.833' 16"=1.33'
18"=1.5'

405T #4@18"
Bar Length=(10-0.333)=9.667'
# of bars=(12.77-0.333)÷1.5'=8+1=7 bars

601E #6@10" x 15'-0"
Bar Length=15'

JOB STAMP

Segment ① H=14

Rebar Quantities
LOCATION RW#6
CALC. BY
CHK. BY Rachel Washington

FILE NO EA06 2HT201
SEGREGATION YES NO
DATE
DATE 5-23-12

13+37.23 to 13+45

H = 12.74 W = 9.58' B = 6.583' C = 3.0' L = 7.77'
2" = 0.167' 3" = 0.25' 4" = 0.333' 7" = 0.583' 9" = 0.75'
X = 1.531 F = 1.67'

602C #6@7"

Bar Length = (12.74 - 0.167) + (1.67 - 0.25') = 13.993

Hook = (3.0 + 1.531 - 0.333) = 4.198

# of bar = (7.77 - 0.333) ÷ 0.583' = 12 + 1 = 13 bars

501 #5@12"

Bar Length = (12.74 + 1.67 - 0.333) = 14.077

# of bars = (7.77 - 0.333) ÷ 1 = 7 + 1 = 8 bars

502 #5 To+4

Bar Length = (7.77 - 0.333) = 7.437'

# of bars = 4

503 #5@7"

Bar Length = (6.583 - 1.531 + 1.5 - 0.167') = 6.385'

# of bars = (7.77 - 0.333) ÷ 0.583' = 12 + 1 = 13 bars

JOB STAMP

ITEM Rebar Quantities
LOCATION RW#6
CALC. BY
CHK. BY Rachel Washington
FILE NO EA 06 2HT20
SEGREGATION YES NO
DATE
DATE 5-23-12

Segment ① H=14

Ø#6 = 0.75" = 0.0625'

H=12.74' B=6.583' C=3.0 9" = 0.75' 18" = 1.5'

X=1.531 7" = 0.583' L=7.77

604D #6@7" (45 * 0.0625') = 2.81

Bar Length = [(6.583 - 1.531 + 2.81] - 0.167' = 7.695'

# of bars = (7.77 - 0.333) ÷ 0.583' = 12 + 1 = 13 bars

504 #5@12"

Bar Length = (7.77 - 0.333) = 7.437'

#of bars = (6.583' - 1.531 - 0.167) ÷ 1 = (4+1)(2 sets) = 10 bars

505 #5@7"

Bar Length = (3.0+1) - 0.167 = 3.833'

# of bars = (7.77 - 0.333) ÷ 0.583' = 12 + 1 = 13 bars

506 #5@12"

Bar Length = (7.77 - 0.333) = 7.437

# of bars = (3.0 - 0.167) ÷ 1 = (3+1)(2sets) = 8 bars

506S #5@18"

Bar Length = (7.77 - 0.333) = 7.437'

#of bars = (12.74 - 0.333) ÷ 1.5' = 8 + 1 = 9 bars

POSTED BY DATE POSTED TO

JOB STAMP

ITEM Rebar Quantities
LOCATION RW# 6
CALC BY
CHK BY Rachel Washington
DATE

EA 06 2HT201
SEGREGATION YES NO
DATE 5-23-12

Segment ① H = 14

L = 22.7'

W = 9.58' F = 1.67'

H = 12.74' 4" = 0.333' 10" = 0.833' 16" = 1.33' 18" = 1.5'

405T #4 @ 18"

Bar Length = (7.77 - 0.333) = 7.437

# of bars = (12.74' - 0.333) ÷ 1.5 = 8 + 1 = 9 bars

601E #6 @ 10" x 15'-0"

507 #5 @ 16" H_{step} = 1.67 + 1.91 + 1.67 = 5.25'

Bar Length = (9.58 - 0.333) = 9.247'

# of bars = (5.25 - 0.333) ÷ 1.33' = (3+1)(2sets) = 8 bars

508 #5 [2'-0" @ 16"

Bar Length = 2[(5.25 - 0.333) + 2] = 13.834'

# of bars = [(9.58 - 0.333) ÷ 1.33] = 7 + 1 = 8 bars

STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION

QUANTITY CALCULATIONS

DC-CEM-4801 (OLD HC-52 REV. 11/92) 7541-3520-0

SHEET 1 OF 3

JOB STAMP

Segment (2) H=16

Rebar Quantities

LOCATION RW#6

FILE NO EA 06 2HT201

SEGREGATION YES NO

CALC. BY

DATE

CHK BY Rachel Washington

DATE 5-23-12

13+45 + 14+00

H = 16.42 W=10.75' B=7.25' C=3.50' L=55

2" = 0.167' 3" = 0.25' 4" = 0.333 6" = 0.50 F=1.67'

X = 1.684

702C #7@6"

Bar Length = (16.42-0.167)+(1.67-0.25)= 17.973

Hook = (3.5 + 1.684' - 0.333)= 4.851'

# of bars = (55 - 0.333) ÷ 0.50 = $\left(\frac{109}{2}\right)$ +1 = 55 bars

501 #5@12"

Bar Length = (16.42 + 1.67 - 0.333) = 17.757'

# of bars = (55 - 0.333) ÷ 1 = 54 + 1 = 55 bars

703C short #7@6" h_1 = 5.75'

Bar Length = (5.75 - 0.167) + (1.67 - 0.25) = 7.003'

Hook = (3.5 + 1.684 - 0.333) = 4.851

# of bars = (55 - 0.333) ÷ 0.50 = $\left(\frac{109}{2}\right)$ +1 = 55 bars

502 #5 To+4

Bar Length = (55 - 0.333) = 54.67'

# of bars = 4

503 #5@6"

Bar Length = (7.25 - 1.684 + 1.50 - 0.167) = 6.899

# of bars = (55 - 0.333) ÷ 0.5 = 109 + 1 = 110 bars

POSTED BY DATE POSTED TO

CEM-4801 (HC-52 REV. 11/92)

JOB STAMP

Segment (2) H=16

Rebar Quantities RW #6

LOCATION

CALC. BY

CHK. BY Rachel Washington

FILE NO EA 06 2HT20

SEGREGATION YES NO

DATE

DATE 5-23-12

ϕ#6=0.75" = 0.0625'

H=16.42 B=7.25' C=3.50' 6" = 0.50' 18" = 1.5' L=55

X=1.684 (45 * 0.0625') = 2.81

904D #9@6"

Bar Length=[(7.25 - 1.684 + 2.81)] - 0.167 = 8.209

# of bars = (55 - 0.333) ÷ 0.5 = 109 + 1 = 110 bars

504 #5@12"

Bar Length = (55 - 0.333) = 54.67'

# of bars = (7.25 - 1.684 - 0.167) ÷ 1 = (5+1)(2rows) = 12 bars

505 #5@6"

Bar Length = (3.50 + 1) - 0.167 = 4.33

# of bars = (55 - 0.333) ÷ 0.5 = 109 + 1 = 110 bars

506 #5@12"

Bar Length = (55 - 0.333) = 54.67'

# of bars = (3.50 - 0.167) ÷ 1 = (3+1)(2rows) = 8 bars

506S #5@18" zone 1

Bar Length = (55 - 0.333) = 54.67'

# of bars = $\left(\frac{16.42}{2} - 0.333\right) \div 1.5 = 5 + 1 = 6$ bars

506S #5@12" zone 2

Bar Length = (55 - 0.333) = 54.67'

# of bars = $\left(\frac{16.42}{2} - 0.333\right) \div 1 = 7 + 1 = 8$ bars

POSTED BY DATE POSTED TO

STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION

QUANTITY CALCULATIONS

DC-CEM-4801 (OLD HC-52 REV. 11/92) 7541-3520-0

JOB STAMP

ITEM Rebar Quantities

LOCATION RW#6

CALC BY

CHK BY Rachel Washington

FILE NO EA 06 2H T201

SEGREGATION YES ☐ NO ☐

DATE

DATE 5-23-12

Segment ② H=16

W=10.75' L=55

H=16.42 4"=0.333' 10"=0.833' 16"=1.33'

405T #4@18"

Bar Length=(55-0.333)=54.67'

#of bars=(16.42-0.333)÷1.5'=10+1=11 bars

601E #6@10" x 15'-0"

Bar Length=15'

POSTED BY DATE POSTED TO

STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION

QUANTITY CALCULATIONS

DC-CEM-4801 (OLD HC-52 REV. 11/92) 7541-3520-0

JOB STAMP

Segment (3) H=18 | Rebar Quantities RW #6 | FILE NO EA 06 2HT201

LOCATION | SEGREGATION YES NO

CALC. BY | DATE

CK. BY Rachel Washington | DATE 5-10-12

14+00 to 14+34.78

H=16.56 W=12.0 B=8.0' C=4.0' L=34.78

2"=0.167' 3"=0.25' 4"=0.333' 5"=0.417' F=1.75'

X=1.690

702C #7@5"

Bar Length=(16.56-0.167)+(1.75-0.25)=17.893

Hook (4.0+1.690-0.333)=5.357'

#of bars=(34.78-0.333)÷0.417'=$\left(\frac{82}{2}\right)$+1=42 bars

501 #5@12"

Bar Length=(16.56+1.75'-0.333)=17.977

#of bars=(34.78-0.333)÷1=34+1=35 bars

703C Short #7@5" h=5.75'

Bar Length=(5.75-0.167)+(1.75-0.25)=7.083'

Hook=(4.0+1.690-0.333)=5.357

#of bars=(34.78-0.333)÷0.417=$\left(\frac{82}{2}\right)$+1=42 bars

502 #5 To+4

Bar Length=(34.78-0.333)=34.447

#of bars=4

503 #5@6"

Bar Length=(8.0-1.690+1.75-0.167)=7.893

#of bars=(34.78-0.333)÷0.417=82+1=83 bars

POSTED BY | DATE | POSTED TO

JOB STAMP

Segment ③ H=18

Rebar Quantities
LOCATION RW#6
CALC. BY
CHK. BY Rachel Washington

FILE NO EA 06 2HT20
SEGREGATION YES NO
DATE
DATE 5-10-12

ϕ#6 = 0.75" = 0.0625'

H = 16.56' B = 8.0' C = 4.0 5" = 0.417' 18" = 1.5'

X = 1.690 (45 * 0.0625') = 2.81' L = 34.78'

804D #8@5"

Bar Length = [(8.0 - 1.690 + 2.81] - 0.167 = 8.953

# of bars = (34.78 - 0.333) ÷ 0.417" = 82 + 1 = 83 bars

504 #5@12"

Bar Length = (34.78 - 0.333) = 34.447

# of bars = (8.0 - 1.690 - 0.167) ÷ 1 = (6+1)(2rows) = 14 bars

505 #5@5"

Bar Length = (4.0 + 1) - 0.167 = 4.833'

# of bars = (34.78 - 0.333) ÷ 0.417' = 82 + 1 = 83 bars

506 #5@12"

Bar Length = (34.78 - 0.333) = 34.447

# of bars = (4.0 - 0.167) ÷ 1 = (4+1)(2rows) = 10 bars

506S #5@18" zone 1

Bar Length = (34.78 - 0.333) = 34.447

# of bars = ($\frac{16.56}{2}$ - 0.333) ÷ 1.5 = 5 + 1 = 6 bars

506S #5@12" zone 2

Bar Length = (34.78 - 0.333) = 34.447

# of bars = ($\frac{16.56}{2}$ - 0.333) ÷ 1 = 8 + 1 = 9 bars

JOB STAMP

ITEM Rebar Quantities
LOCATION RW #6
CALC BY
CHK BY Rachel Washington
FILE NO
SEGREGATION YES NO
DATE
DATE 5-11-1

Segment ③ H=18

W=12.0 L=40

H=17.56 4"=0.333' 10"=0.833' 16"=1.33'

405T #4@18"

Bar Length=(34.78-0.333)=34.447'

# of bars=(16.56-0.333)÷1.5=11+1=12 bars

601E #6@10" x 15'-0"

Bar Length=15'

STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION

QUANTITY CALCULATIONS

DC-CEM-4801 (OLD HC-52 REV. 11/92) 7541-3520-0

SHEET 1 OF 1

JOB STAMP

Pedestal

Rebar Quantity
RW # 4 + #6

EA 06-2HT20

LOCATION

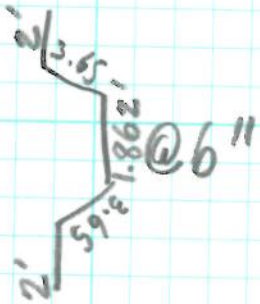
SEGREGATION YES NO

CALC. BY

DATE

Rachel Washington 5-29-12

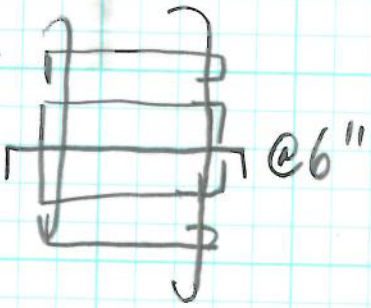
#4



$l = 2(2') + 2(3.65) + 1.862 = 13.162'$

# of bars = $(5 - 0.333) \div 0.5' = 9 + 1 = 10$ bars

#4



$l = 23.823'$

# of bars = 10 bars

POSTED BY DATE POSTED TO

CEM-4801 (HC-52 REV. 11/92)

ARCHITECTURAL TREATMENT, RETAINING WALL 1,3,5

	BEGINNING STATION	ENDING STATION	Length (lf)	Height (ft)	TOP OF SIDEWALK (ft)	TOP OF SIDEWALK - 1 FOOT (ft)	TOP OF Wall Elevation (ft) @ Beginning Sta	HEIGHT (ft) AT BEGINNING STATION	AREA (sqft)
RETAINING WALL 1	12 + 00	15 + 75.84	375.84	0.66666667			282.06		250.56
			375.84				269.92		
									251 sqft
				TOP OF SIDEWALK - 1 FOOT					
RETAINING WALL 3	11 + 17.46	11 + 60.00	42.54	8	284.52	283.52	287.9	4.38	206.11
	11 + 60.00	12 + 55.00	95.00	10	283.5	282.5	287.81	5.31	596.13
	12 + 55.00	12 + 63.83	8.83	12	281.38	280.38	287.62	7.24	64.68
	12 + 63.83		***146.37***		281.19	280.19	287.6	7.41	
									867 sqft
RETAINING WALL 5	13 + 32.96	13 + 60.00	27.04	12	279.13	278.13	287.6	9.47	277.97
	13 + 60.00	14 + 30.21	70.21	16	278.05	277.05	288.14	11.09	926.42
	14 + 30.21		***97.25***		275.24	274.24	289.54	15.3	
									1204 sqft
									TOTAL RW 1,3,5 = **2322 sqft**

ARCHITECTURAL TREATMENT, RETAINING WALL 2,4,6

RETAINING WALL 2	11 + 99.38	15 + 74.59	375.21	0.66666667			282.55		250.14
			375.21						
									250 sqft
RETAINING WALL 4	11 + 24	11 + 80	56.00	8.00	285.76	284.76	288.1	3.34	272.44
	11 + 80	12 + 56	76.00	10.00	282.71	281.71	288.1	6.39	562.40
	12 + 56	12 + 66	10.00	12.00	280.69	279.69	288.1	8.41	85.35
	12 + 66		***142.00***		280.44	279.44	288.1	8.66	
									920 sqft
RETAINING WALL 6	13 + 37.23	13 + 45	7.77	14.00	278.73	277.73	289.39	11.66	91.45
	13 + 45	14 + 00	55.00	16.00	278.54	277.54	289.42	11.88	715.00
	14 + 00	14 + 34.78	34.78	18.00	276.47	275.47	289.59	14.12	517.00
			97.55		275.09	274.09	289.7	15.61	
									1323 sqft
									TOTAL RW 2,4,6 = **2494 sqft**

MISCELLANEOUS ITEMS

	BEGINNING STATION	ENDING STATION
RETAINING WALL 1	12 + 00	15 + 75.84
RETAINING WALL 3	11 + 17.46	12 + 63.83
RETAINING WALL 5	13 + 32.96	14 + 30.21
RETAINING WALL 2	11 + 99.38	15 + 74.59
RETAINING WALL 4	11 + 24	12 + 66
RETAINING WALL 6	13 + 37.23	14 + 34.78

MISC #1 MINOR CONCRETE (GUTTER)

	BEGINNING STATION	ENDING STATION	LENGTH
RETAINING WALL 3	11 + 17.46	12 + 63.83	146.37
RETAINING WALL 5	13 + 32.96	14 + 30.21	97.25
	MINOR CONCRETE GUTTER =		243.6 LF

	BEGINNING STATION	ENDING STATION	LENGTH
RETAINING WALL 4	11 + 24	12 + 66	142
RETAINING WALL 6	13 + 37.23	14 + 34.78	97.55
	MINOR CONCRETE GUTTER =		239.6 LF

MISC #2 METAL PICKET RAILING

	BEGINNING STATION	ENDING STATION	LENGTH
TRANSITION BEFORE RW1	11 + 18	12 + 00	82
TRANSITION @ END RW1	15 + 75	16 + 75	100
RETAINING WALL 1	12 + 00	15 + 75.00	375
RETAINING WALL 3	11 + 17.46	12 + 63.83	146.37
RETAINING WALL 5	13 + 32.96	14 + 30.21	97.25
	METAL PICKET RAILING =		800.6 LF

	BEGINNING STATION	ENDING STATION	LENGTH
TRANSITION BEFORE RW2	11 + 50	11 + 99	49.38
TRANSITION @ END RW2	15 + 75	16 + 75	100
RETAINING WALL 2	11 + 99.38	15 + 75.00	375.62
RETAINING WALL 4	11 + 24	12 + 66	142
RETAINING WALL 6	13 + 37.23	14 + 34.78	97.55
	METAL PICKET RAILING =		764.550 LF

~~**MISC #3 CONCRETE BARRIER (TYPE 60D MODIFIED)**~~ DISTRICT ITEM

	~~BEGINNING STATION~~	~~ENDING STATION~~	~~LENGTH~~	
~~RETAINING WALL 1~~	~~12 + 00~~	~~15 + 75.84~~	~~375.84~~	
	~~CONCRETE BARRIER (TYPE 60D MODIFIED)=~~			~~375.84 LF~~

	~~BEGINNING STATION~~	~~ENDING STATION~~	~~LENGTH~~	
~~RETAINING WALL 2~~	~~11 + 99.38~~	~~15 + 74.59~~	~~375.21~~	
	~~CONCRETE BARRIER (TYPE 60D MODIFIED) =~~			~~375.21 LF~~

PREPARE AND STAIN CONCRETE, RETAINING WALL 2,4,6

	BEGINNING STATION	ENDING STATION	Length (lf)	AREA 1 (sqft)	AREA 2 (sqft)	AREA 3 (sqft)	AREA 4 (sqft)	AREA 5 (sqft)	AREA (sqft)
RETAINING WALL 4	11 + 24	12 + 66	142.00	48.1905	54.04	60.42	67.84	75.43	305.92
								Retaining Wall #4 =	**305.9 CY**
RETAINING WALL 6	13 + 37.23	14 + 35	97.55	80.02	90.91	100.09	109.59	119.14	499.75
								Retaining Wall #6 =	**499.7 CY**

TOTAL RW 2,4,6 = 806 sqft

REMOVAL RETAINING WALL at Fresno Street Underpass

Assume limits for Removal Sections E,F,G,H,J,K. Assume batter neglible.

	SECTION	Length (lf)	Design H (ft)	Bottom of Ftg Elev (ft)	TOP OF Wall Elevation (ft) @ Beginning Sta	FOOTING HEIGHT (ft) "F"	FOOTING WIDTH (ft) "W"	Key Volume (cy)	Step Volume (cy)	STEM CONCRETE (cy)	FOOTING CONCRETE (cy)	VOLUME (cy)
RETAINING WALL 1	E	30	16	275.33	292	1.17	9.00	5.93	0.69	17.23	11.67	35.51
(Fresno Street Rt)	F	30	14	277.4	292	1.17	8.00	5.19	0.54	14.93	10.37	31.02
ajacent to RW 2,4,6	G	20	12	279.23	292	1.17	7.17	2.96	0.35	8.60	6.19	18.10
	H	20	10	280.53	292	1.17	6.17	1.23		7.63	5.33	14.20
						AVE H (ft)	WIDTH (ft) (assume "B" of H=8)	Assumed Key Volume (sqft)				
	J	30	GW	283.3	292	8.033	3.50	2.00				33.46
	K	20	GW	285	290	5.00	3.50	2.00				14.44
										"Retaining Wall #1" =		**146.7 CY**

(at Fresno Street Underpass)

TOTAL "RW 1" Concrete Removal = 147 CY

RETAINING WALL 2,4,6 Structure Backfill

STATIONING									Page 1 of 1
RW 2		Bottom of Ftg Elev (ft)	TOP OF WALL 2 ELEV (ft) at beginning Sta (assume linear)	OG ELEVATION (ft) ave	Length (ft)	KEY Concrete Volume (CY)	EXCAVATION (cy)	Volume of Retaining Wall (cy)	Volume from Top of wall to top of lower wall (cy)
11 + 99.38	12 + 66	269.92	283.37	287	67	4.93	270.01	68.75	138.17
12 + 66	12 + 80	270.92	280.94	286.5	14	1.04	37.78	12.30	
12 + 80	13 + 37.23	266.17	280.43	285	57	4.24	266.58	68.18	
13 + 37.23	13 + 60	267.17	278.35	283	23	1.69	11.01	23.87	assume = 0
13 + 60	14 + 34.78	263	277.52	277.87	75	5.54	61.54	89.98	assume = 0
14 + 34.78	14 + 80	264	274.80	275.32	45	3.35	154.93	46.62	
14 + 80	15 + 20	259.5	273.15	273.45	40	2.96	191.04	46.52	
15 + 20	15 + 74.59	259.5	271.70	272.5	55	4.04	190.66	53.28	
15 + 74.59			269.71	271					
			269.71		375		1183.56		
RW 4									
11 + 24	11 + 80.00	278.38	288.1	287	56	1.84	153.73	44.72	
11 + 80.00	11 + 99.38	276.11	288.1	287	19.38	0.64	67.05	17.78	
11 + 99.38	12 + 56	276.11	288.1	287	57	4.19	218.94	54.73	
12 + 56.00	12 + 66	274	288.1		10	0.74	55.80	11.84	
12 + 66			288.1		142				
							495.5		
RW 6									
13 + 37.23	13 + 60	272.5	289.4	282	23	1.69	181.42	37.79	
13 + 60	13 + 80	272.5	289.47	282	20	1.48	171.85	35.07	
13 + 80	14 + 00	270.42	289.53	280	20	1.48	194.84	37.19	
14 + 00	14 + 34.78	270.42	289.59	279.39	35	2.58	363.89	68.04	
14 + 34.78			289.70		98	7.23			
							911.99		
						49.66	2591.07	716.64	138.17

Assume Backfill = Excavation - Vol RW Comcrete - Vol top to top of walls

RETAINING WALL 2, 4 ,6 BACKFILL = 1687 CY

STATIONING															
RW 2			Ave Sidewalk Elev (ft) top of wall	Ave Sidewalk Elev (ft) Gutter	TOP OF WALL 2 ELEV (ft) at beginning Sta (assume linear)	OG ELEVATION (ft) ave	Design H (ft)	Length (ft)	"W"	Ave Height Section 1 (ft)	Ave Height Section 2 (ft)	Ave Height Section 3 (ft)	"C"	Stem Width (ft)	"F"
11 + 99.38	12 + 66	269.92	280.77	276.72	283.37	287	10	67	7.50	6.80	17.18	calc'd in wall 4	2.25	1.42	1.33
12 + 66	12 + 80	270.92	279.34	274.55	280.94	286.5	10	14	7.50	3.63	9.77		2.25	1.42	1.33
12 + 80	13 + 37.23	266.17	277.91	272.38	280.43	285	12	57	9.50	6.21	13.22		2.75	1.50	1.33
13 + 37.23	13 + 60	267.17	276.2125	270.65	278.35	283	12	23	9.50	3.48	9.77	calc'd in wall 6	2.75	1.50	1.33
13 + 60	14 + 34.78	263	274.515	268.93	277.52	277.87	12	75	9.50	5.93	12.16	calc'd in wall 6	2.75	1.50	1.33
14 + 34.78	14 + 80	264	273.07	268.05	274.80	275.32	12	45	9.50	4.05	9.98		2.75	1.50	1.33
14 + 80	15 + 20	259.5	271.625	267.18	273.15	273.45	12	40	9.50	7.68	12.93		2.75	1.50	1.33
15 + 20	15 + 74.59	259.5	269.79	266.97	271.70	272.5	10	55	7.50	7.47	11.20		2.25	1.42	1.33
15 + 74.59					269.71	271									
					269.71			375							
RW 4			Ave Sidewalk Elev (ft) Gutter	Ave Sidewalk Elev (ft) mid wall	TOP OF WALL 4 ELEV (ft) at beginning Sta										
11 + 24	11 + 80.00	278.38	287.1	284.28	288.1	287	8	56	6.50			8.72	2.00	1.33	1.33
11 + 80.00	11 + 99.38	276.11	287.1	282.93	288.1	287	10	19.38	6.50			10.99	2.00	1.42	1.33
11 + 99.38	12 + 56	276.11	287.1	281.58	288.1	287	10	57	7.50	calc'd in wall 2	calc'd in wall 2	10.99	2.25	1.42	1.33
12 + 56.00	12 + 66	274	287.1	281.58	288.1		12	10	**9.50**	calc'd in wall 2	calc'd in wall 2	13.10	2.75	1.50	1.33
12 + 66					288.1			142							
RW 6			Ave Sidewalk Elev (ft) Gutter	Ave Sidewalk Elev (ft) mid wall	TOP OF WALL 6 ELEV (ft) at beginning Sta										
13 + 37.23	13 + 60	272.5	288.435	278.375	289.4	282	14	23	12.50	calc'd in wall 2	calc'd in wall 2	15.94	3.00	1.58	1.67
13 + 60	13 + 80	272.5	288.5	277.635	289.47	282	16	20	13.50	calc'd in wall 2	calc'd in wall 2	16.00	4.00	1.67	1.67
13 + 80	14 + 00	270.42	288.56	276.86	289.53	280	16	20	13.50	calc'd in wall 2	calc'd in wall 2	18.14	4.00	1.67	1.67
14 + 00	14 + 34.78	270.42	288.645	275.78	289.59	279.39	18	35	14.50	calc'd in wall 2	calc'd in wall 2	18.23	4.00	1.75	1.67
14 + 34.78					289.70			98							

RW 2,4,6 CONTINUED

Ave Width Section 1 (ft)	Ave Width Section 2 (ft)	Ave Width Section 3 (ft)	KEY EXCAVATION (CY)	SECTION EXCAVATION (cy)
3.25	5.08		4.93	270.01
3.25	6.25		1.04	37.78
3.75	7.75		4.24	266.58
3.75			1.69	11.01
3.75			5.54	61.54
3.75	7.75		3.35	154.93
3.75	7.75		2.96	191.04
3.25	6.25		4.04	190.66
				1183.56
		8.50	1.84	153.73
		8.50	0.64	67.05
		9.50	4.19	218.94
		11.50	0.74	55.80
				495.5
		13.50	1.69	181.42
		14.50	1.48	171.85
		14.50	1.48	194.84
		15.50	2.58	363.89
			7.23	
				911.99
			49.66	2640.74

RETAINING WALL 2,4,6 EXCAVATION = 2641 cy

STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION

QUANTITY CALCULATIONS

DC-CEM-4801 (OLD HC-52 REV. 11/92) 7541-3520-0

JOB STAMP

SHEET 1 OF 1

Concrete Quantity EA 06-2HT2C

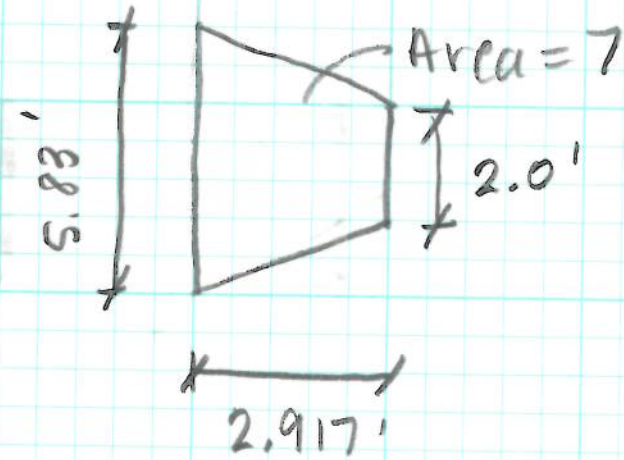
RW #4 & #6

Rachel Washington 5-29-12

Pedestal Concrete

$$\text{Area} = (7.507\,ft^2 * 5') \div 27\,\frac{yd^3}{ft} = (1.39\,cu.yd * 2ea) =$$

$$= 2.78\ cu.yd.$$



POSTED BY DATE POSTED TO

CEM-4801 (HC-52 REV. 11/92)

STRUCTURAL CONCRETE, RETAINING WALL 2,4,6

	BEGINNING STATION	ENDING STATION	Length (lf)	Design H (ft)	Bottom of Ftg Elev (ft)	TOP OF Wall Elevation (ft) @ Beginning Sta	FOOTING HEIGHT (ft) "F"	FOOTING WIDTH (ft) "W"	Key Volume (cy)	Step Volume (cy)	BATTER WIDTH (1:24) (ft)	STEM CONCRETE (cy)	FOOTING CONCRETE (cy)	VOLUME (cy)
RETAINING WALL 2	11 + 99.38	12 + 40.00	40.62	10.00	272.5	282.55	1.33	7.58	1.30	0.56	1.34	14.44	15.21	31.51
	12 + 40.00	12 + 80.00	40.00	12.00	270.5	281.51	1.50	8.33	2.96	0.77	1.37	15.82	18.52	38.08
	12 + 80.00	13 + 20.00	40.00	14.00	268	280.48	1.67	9.58	2.96	0.53	1.43	18.54	23.66	45.70
	13 + 20	13 + 40.00	20.00	14.00	266.5	279.46	1.67	9.58	1.48	0.53	1.46	10.04	11.83	23.88
	13 + 40	13 + 60.00	20.00	14.00	265	278.91	1.67	9.58	1.48		1.50	11.02	11.83	24.33
	13 + 60	13 + 80.00	20.00	16.00	265	278.26	1.67	10.75	1.48	0.80	1.47	10.25	13.27	25.80
	13 + 80.00	14 + 40.00	60.00	16.00	263	277.50	1.67	10.75	4.44	0.53	1.49	32.18	39.81	76.98
	14 + 40	15 + 00.00	60.00	14.00	261.66	275.14	1.67	9.58	4.44	0.77	1.44	28.86	35.49	69.57
	15 + 00	15 + 40.00	40.00	14.00	259.5	272.78	1.67	9.58	2.96		1.45	19.65	23.66	46.28
	15 + 40.00	15 + 74.59	34.59	12.00	259.5	271.20	1.50	8.33	2.56		1.40	14.79	16.01	33.36
	15 + 74.59		***375.21***			270.03			***26.09***			***175.59***	***209.31***	
												Retaining Wall #2 =		**415.5 CY**
RETAINING WALL 4	11 + 24	11 + 80	56.00	8.00	278.38	288.1	1.33	7.25	1.81	0.61	1.35	20.43	20.05	42.90
	11 + 80	12 + 56	76.00	10.00	276.11	288.1	1.33	7.58	2.47	0.59	1.44	36.66	28.46	68.18
	12 + 56	12 + 66	10.00	12.00	274	288.1	1.50	8.33	0.74		1.53	5.89	4.63	11.26
	12 + 66		***142.00***			288.1			***5.02***			***62.98***	***53.14***	
												Retaining Wall #4 =		**122.3 CY**
RETAINING WALL 6	13 + 37.23	13 + 45	7.77	14.00	274	289.39	1.67	9.58	0.58	1.27	1.57	5.09	4.60	11.53
	13 + 45	14 + 00	55.00	16.00	270.42	289.42	1.67	10.75	4.07		1.73	48.36	36.50	88.93
	14 + 00	14 + 34.78	34.78	18.00	270.42	289.59	1.75	12.00	2.58		1.73	30.71	27.05	60.33
			97.55			289.7			***7.23***			***84.15***	***68.14***	
												Retaining Wall #6 =		**160.8 CY**

TOTAL RW 2,4,6 = 699 CY

CHECKER QUANTITIES

EA 06-2HT201

RETAINING WALL 2,4,6

MAY 30, 2012

06 - 2HT 201
Architectural Treatment
Quantity GRG
5/2012

RW #4

$\left(\frac{9.47 + 8.51}{2}\right)(142') = 921.6 \ ft^2$

RW #6

$\left(\frac{11.6 + 15.59}{2}\right)(97.55) = 1326.19 \ ft^2$

$\Sigma \ 2162.57 \ ft^2$

Prepare and Stain Concrete Quantity

RW #4
$47.8 + 54.03 + 60.70 + 67.91 + 75.43 = 305.87 \ ft^2$

RW #6
$80.02 + 90.9 + 100.19 + 109.58 + 119.14 = 499.83 \ ft^2$

$\Sigma \ 805.7 \ ft^2$

Architectural Treatment

RW #2 $(.67)(375.21) = 251.39 \ ft^2$

CHECKER

06-2HT201 QUANTITY GRG 5/2012

Metal Picket	Railing		
Location	Begin Station	End Station	Total Length Ft.
RW # 2	1150	1675	525
RW # 4	1124	1266	142
RW # 6	1337.23	1434.78	97.55
		Total Lengt	764.55

STATE OF CALIFORNIA-DEPARTMENT OF TRANSPORTATION

BAR REINFORCING SUMMARY

Estimating Section to Forward to RE Pending File

STRUCTURE	BRIDGE NO.	EA	DISTRICT	COUNTY	ROUTE	CALCULATED BY	CHECKED BY
Retaining Wall 2, 4, 6	0	0	6	Fresno	99	G. Reyes-Gutierrez	Rachel Washington

BAR SIZE		SUPERSTRUCTURE		SUBSTRUCTURE		RETAINING WALLS			
		ESTIMATE	CHECK	ESTIMATE	CHECK	ESTIMATE	CHECK	ESTIMATE	CHECK
3									
4						3 693	3 641		
5						39 341	39 036		
6						26 029	26 091		
7						11 656	11 631		
8						1 988	1 984		
9						7 653	7 658		
10									
11									
14									
18									
	INT DIAPHRAGM								
	RAIL								
99	WALL								
	HINGE								
SUBTOTAL						90 362	90 041		
2% SPLICES						1 807	1 801		
TOTAL						92 169	91 842		

NOTES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) **RW** PAGE 1 OF 1

		SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 2	GRG	6	3591	6	0	0	0612000239-1

Retaining Wall # 2 Summary (see segments in below sheets)

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
Total # of Segments =														
Type 1 Retaining Wall Reinforcement Totals				0.0	2622.4	22445.1	11666.9	2295.4	0.0	1351.2	0.0	0.0	0.0	0.0
NOTE: For computing steel in Standard Retaining	TOTAL LENGTHS			0	2622	22445	11667	2295	0	1351	0	0	0	0
Wall from the charts, use 99 for size.	WT. PER FOOT			0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
Show lb/ft to nearest pound.	TOTAL WT. PER SIZE			**0**	**1,752**	**23,410**	**17,524**	**4,692**	**0**	**4,594**	**0**	**0**	**0**	**0**
	TOTAL WT. PER SHEET			**0**	**1,752**	**23,410**	**17,524**	**4,692**	**0**	**4,594**	**0**	**0**	**0**	**0**

BY	DATE	REMARKS		NAME		VERIFY
G. Reyes-Gutierrez	5/30/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**		
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**	
Rachel Washington	5/30/2012			916-227-0721	5/30/2012	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) **RW**

		SOURCE		CHARGE		EXPENDITURE	SPECIAL DES
		DIST	UNIT	DIST	UNIT	AUTHORIZATION	*WHEN APPLICABLE*
Retaining Wall # 2	GRG	6	3591	6	0	0	0612000239-1

Segment 1 — **STA 11+99.38-12+40 L=40.62' H=10'**

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
1 "T" bars #4@18"	4	6	40.29		241.7									
2 "S" bars #5@18"	5	6	40.29			241.7								
3 "e" bars #6@10" X 5' for 8'	6	100	15.00				1500.0							
4 "c" bars #6@9"	6	54	11.94				644.8							
4a short "c" bars #6@9"														
5 #5@12"	5	41	8.62			353.4								
6 #5 tot 4	5	4	40.29			161.2								
7 #5@s=9"	5	54	5.27			284.6								
8 #5@12"	5	8	40.29			322.3								
9 "d" bars #6@s=9"	6	54	5.95				321.3							
10 #5@s=9"	5	54	3.17			171.2								
11 #5@12"	5	6	40.29			241.7								
STEP														
1 #5@16"	5	6	7.25			43.5								
2 #5@16"	5	6	8.00			48.0								
TOTAL LENGTHS				0	242	1868	2466	0	0	0	0	0	0	0
WT. PER FOOT				0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
TOTAL WT. PER SIZE				**0**	**161**	**1,948**	**3,704**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL WT. PER SHEET				**0**	**161**	**1,948**	**3,704**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

NOTE: For computing steel in Standard Retaining Wall from the charts, use 99 for size. Show lb/ft to nearest pound.

BY	DATE	REMARKS	IN CASE OF QUESTION CONTACT:	NAME	VERIFY
G. Reyes-Gutierrez	5/30/2012			**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
Rachel Washington	5/30/2012			916-227-0721	5/30/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) **RW** PAGE 3 OF 1:

		SOURCE		CHARGE		EXPENDITURE	SPECIAL DES
		DIST	UNIT	DIST	UNIT	AUTHORIZATION	*WHEN APPLICABLE*
Retaining Wall # 2	GRG	6	3591	6	0	0	0612000239-1

Segment 2 — **STA 12+40-12+80 L=20' H=12'**

	ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE										
					No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
1	"T" bars #4@18"	4	6	39.67		238.0									
2	"S" bars #5@18"	5	6	39.67			238.0								
3	"e" bars #6@10" X 5' for 8'														
4	"c" bars #6@9"	6	53	13.10				694.3							
4a	short "c" bars #6@9"														
5	#5@12"	5	41	9.58			392.8								
6	#5 tot 4	5	4	39.67			158.7								
7	#5@s=9"	5	53	5.82			308.5								
8	#5@12"	5	10	39.67			396.7								
9	"d" bars #6@s=9"	6	53	6.49				344.0							
10	#5@s=9"	5	53	3.17			168.0								
11	#5@12"	5	6	39.67			238.0								
	STEP														
1	#5@16"	5	8	8.00			64.0								
2	#5@16"	5	7	11.34			79.4								
	TOTAL LENGTHS				0	238	2044	1038	0	0	0	0	0	0	0
	WT. PER FOOT				0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
	TOTAL WT. PER SIZE				**0**	**159**	**2,132**	**1,559**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL WT. PER SHEET				**0**	**159**	**2,132**	**1,559**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

NOTE: For computing steel in Standard Retaining Wall from the charts, use 99 for size.
Show lb/ft to nearest pound.

BY	DATE	REMARKS		NAME	VERIFY
G. Reyes-Gutierrez	5/30/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
Rachel Washington	5/30/2012			916-227-0721	5/30/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) RW

		SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 2	GRG	6	3591	6	0	0	0612000239-1
Segment 3	**STA 12+80-13+20 L=40 H=14**						

ITEM		SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
1	"T" bars #4@18"	4	7	39.67		277.7									
2	"S" bars #5@18"	5	7	39.67			277.7								
3	"e" bars #6@10" X 5' for 8'														
4	"c" bars #6@7"	6	69	15.12				1043.3							
4a	short "c" bars #6@9"														
5	#5@12"	5	41	11.05			453.1								
6	#5 tot 4	5	4	39.67			158.7								
7	#5@s=7"	5	69	6.52			449.9								
8	#5@12"	5	12	39.67			476.0								
9	"d" bars #6@s=7"	6	69	7.83				540.3							
10	#5@s=7"	5	69	3.67			253.2								
11	#5@12"	5	8	39.67			317.4								
	STEP														
1	#5@16"	5	6	9.25			55.5								
2	#5@16"	5	7	9.66			67.6								
NOTE: For computing steel in Standard Retaining	TOTAL LENGTHS				0	278	2509	1584	0	0	0	0	0	0	0
Wall from the charts, use 99 for size.	WT. PER FOOT				0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
Show lb/ft to nearest pound.	TOTAL WT. PER SIZE				**0**	**185**	**2,617**	**2,378**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL WT. PER SHEET				**0**	**185**	**2,617**	**2,378**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

BY	DATE	REMARKS		NAME	VERIFY
G. Reyes-Gutierrez	5/30/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
Rachel Washington	5/30/2012			916-227-0721	5/30/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) **RW** PAGE 5 OF 1

		SOURCE		CHARGE		EXPENDITURE	SPECIAL DES
		DIST	UNIT	DIST	UNIT	AUTHORIZATION	*WHEN APPLICABLE*
Retaining Wall # 2	GRG	6	3591	6	0	0	0612000239-1

Segment 4 — **STA 13+20-13+40 L=20 H=14**

ITEM		SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
1	"T" bars #4@18"	4	7	19.67		137.7									
2	"S" bars #5@18"	5	7	19.67			137.7								
3	"e" bars #6@10" X 5' for 8'														
4	"c" bars #6@7"	6	34	15.86				539.2							
4a	short "c" bars #6@7"														
5	#5@12"	5	21	11.76			247.0								
6	#5 tot 4	5	4	19.67			78.7								
7	#5@s=7"	5	34	6.49			220.7								
8	#5@12"	5	10	19.67			196.7								
9	"d" bars #6@s=7"	6	34	7.80				265.2							
10	#5@s=7"	5	34	3.84			130.6								
11	#5@12"	5	6	19.67			118.0								
	STEP														
1	#5@16"	5	6	9.25			55.5								
2	#5@16"	5	7	9.66			67.6								
NOTE: For computing steel in Standard Retaining	TOTAL LENGTHS				0	138	1252	804	0	0	0	0	0	0	0
Wall from the charts, use 99 for size.	WT. PER FOOT				0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
Show lb/ft to nearest pound.	TOTAL WT. PER SIZE				**0**	**92**	**1,306**	**1,208**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL WT. PER SHEET				**0**	**92**	**1,306**	**1,208**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

BY	DATE	REMARKS		NAME	VERIFY
G. Reyes-Gutierrez	5/30/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
Rachel Washington	5/30/2012			916-227-0721	5/30/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) **RW** PAGE 6 OF 1

		SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 2	GRG	6	3591	6	0	0	0612000239-1

Segment 5 — **STA 13+40-13+60 L=20' H=14'**

ITEM		SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
1	"T" bars #4@18"	4	8	19.67		157.4									
2	"S" bars #5@18"	5	8	19.67			157.4								
3	"e" bars #6@10" X 5' for 8'														
4	"c" bars #6@7"	6	34	16.80				571.2							
4a	short "c" bars #6@7"														
5	#5@12"	5	21	12.66			265.9								
6	#5 tot 4	5	4	19.67			78.7								
7	#5@s=7"	5	34	6.45			219.3								
8	#5@12"	5	10	19.67			196.7								
9	"d" bars #6@s=7"	6	34	7.76				263.8							
10	#5@s=7"	5	34	3.84			130.6								
11	#5@12"	5	6	19.67			118.0								

NOTE: For computing steel in Standard Retaining		No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
	TOTAL LENGTHS	0	157	1166	835	0	0	0	0	0	0	0
Wall from the charts, use 99 for size.	WT. PER FOOT	0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
Show lb/ft to nearest pound.	TOTAL WT. PER SIZE	**0**	**105**	**1,217**	**1,254**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL WT. PER SHEET	**0**	**105**	**1,217**	**1,254**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

BY	DATE	REMARKS		NAME	VERIFY
G. Reyes-Gutierrez	5/30/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
Rachel Washington	5/30/2012			916-227-0721	5/30/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) RW

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 2	6	3591	6	0	0	0612000239-1

Segment 6 — **STA 13+60-13+80 L=20' H=16'**

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
1 "T" bars #4@18"	4	8	19.67		157.4									
2 "S" bars #5@18" #5@12"	5	10	19.67			196.7								
3 "e" bars #6@10" X 5' for 8'														
4 "c" bars #7@6"	7	20	16.57					331.4						
4a short "c" bars #7@6"	7	20	11.77					235.4						
5 #5@12"	5	21	11.96			251.2								
6 #5 tot 4	5	4	19.67			78.7								
7 #5@s=6"	5	40	7.15			286.0								
8 #5@12"	5	12	19.67			236.0								
9 "d" bars #9@s=6"	9	40	8.46							338.4				
10 #5@s=6"	5	40	4.34			173.6								
11 #5@12"	5	8	19.67			157.4								
STEP														
1 #5@16"	5	6	10.42			62.5								
2 #5@16"	5	8	10.66			85.3								
TOTAL LENGTHS				0	157	1527	0	567	0	338	0	0	0	0
WT. PER FOOT				0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
TOTAL WT. PER SIZE				**0**	**105**	**1,593**	**0**	**1,159**	**0**	**1,151**	**0**	**0**	**0**	**0**
TOTAL WT. PER SHEET				**0**	**105**	**1,593**	**0**	**1,159**	**0**	**1,151**	**0**	**0**	**0**	**0**

NOTE: For computing steel in Standard Retaining Wall from the charts, use 99 for size.

Show lb/ft to nearest pound.

BY	DATE	REMARKS	IN CASE OF QUESTION CONTACT:	NAME	VERIFY
G. Reyes-Gutierrez	5/30/2012			**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
Rachel Washington	5/30/2012			916-227-0721	5/30/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) **RW**

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 2	6	3591	6	0	0	0612000239-1

Segment 7 — **STA 13+80-14+40 L=60' H=16'**

	ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
1	"T" bars #4@18"	4	8	59.67		477.4									
2	"S" bars #5@18" #5@12"	5	10	59.67			596.7								
3	"e" bars #6@10" X 5' for 8'														
4	"c" bars #7@6"	7	60	17.02					1021.2						
4a	short "c" bars #7@6"	7	60	11.79					707.4						
5	#5@12"	5	61	12.39			755.8								
6	#5 tot 4	5	4	59.67			238.7								
7	#5@s=6"	5	120	7.13			855.6								
8	#5@12"	5	12	59.67			716.0								
9	"d" bars #9@s=6"	9	120	8.44							1012.8				
10	#5@s=6"	5	120	4.34			520.8								
11	#5@12"	5	8	59.67			477.4								
	STEP														
1	#5@16"	5	6	10.42			62.5								
2	#5@16"	5	8	10.00			80.0								
	TOTAL LENGTHS				0	477	4303	0	1729	0	1013	0	0	0	0
	WT. PER FOOT				0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
	TOTAL WT. PER SIZE				**0**	**319**	**4,489**	**0**	**3,533**	**0**	**3,444**	**0**	**0**	**0**	**0**
	TOTAL WT. PER SHEET				**0**	**319**	**4,489**	**0**	**3,533**	**0**	**3,444**	**0**	**0**	**0**	**0**

NOTE: For computing steel in Standard Retaining Wall from the charts, use 99 for size. Show lb/ft to nearest pound.

BY	DATE	REMARKS		NAME	VERIFY
G. Reyes-Gutierrez	5/30/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
Rachel Washington	5/30/2012			916-227-0721	5/30/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) **RW**

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 2	6	3591	6	0	0	0612000239-1

Segment 8 — **STA 14+40-15+00 L=60' H=14'**

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
1 "T" bars #4@18"	4	7	59.67		417.7									
2 "S" bars #5@18"	5	7	59.67			417.7								
3 "e" bars #6@10" X 5' for 8'														
4 "c" bars #6@7"	6	103	15.47				1593.4							
4a short "c" bars #6@7"														
5 #5@12"	5	61	11.38			694.2								
6 #5 tot 4	5	4	59.67			238.7								
7 #5@s=7"	5	103	6.50			669.5								
8 #5@12"	5	12	59.67			716.0								
9 "d" bars #6@s=7"	6	103	7.81				804.4							
10 #5@s=7"	5	103	3.84			395.5								
11 #5@12"	5	8	59.67			477.4								
STEP														
1 #5@16"	5	6	9.25			55.5								
2 #5@16"	5	7	10.00			70.0								
TOTAL LENGTHS				0	418	3734	2398	0	0	0	0	0	0	0
WT. PER FOOT				0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
TOTAL WT. PER SIZE				**0**	**279**	**3,895**	**3,602**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL WT. PER SHEET				**0**	**279**	**3,895**	**3,602**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

NOTE: For computing steel in Standard Retaining Wall from the charts, use 99 for size. Show lb/ft to nearest pound.

BY	DATE	REMARKS	IN CASE OF QUESTION CONTACT:	NAME	VERIFY
G. Reyes-Gutierrez	5/30/2012			**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
Rachel Washington	5/30/2012			916-227-0721	5/30/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) **RW** PAGE 10 OF 1

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 2	6	3591	6	0	0	0612000239-1

Segment 9 — **STA 15+00-15+40 L=40' H=14'**

	ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
1	"T" bars #4@18"	4	7	39.67		277.7									
2	"S" bars #5@18"	5	7	39.67			277.7								
3	"e" bars #6@10" X 5' for 8'														
4	"c" bars #6@7"	6	69	15.61				1077.1							
4a	short "c" bars #6@7"														
5	#5@12"	5	41	11.57			474.4								
6	#5 tot 4	5	4	39.67			158.7								
7	#5@s=7"	5	69	6.49			447.8								
8	#5@12"	5	10	39.67			396.7								
9	"d" bars #6@s=7"	6	69	7.80				538.2							
10	#5@s=7"	5	69	3.84			265.2								
11	#5@12"	5	8	39.67			317.4								

NOTE: For computing steel in Standard Retaining Wall from the charts, use 99 for size. Show lb/ft to nearest pound.

	No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
TOTAL LENGTHS	0	278	2338	1615	0	0	0	0	0	0	0
WT. PER FOOT	0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
TOTAL WT. PER SIZE	**0**	**185**	**2,438**	**2,426**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL WT. PER SHEET	**0**	**185**	**2,438**	**2,426**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

BY	DATE	REMARKS	IN CASE OF QUESTION CONTACT:	NAME	VERIFY
G. Reyes-Gutierrez	5/30/2012			**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
Rachel Washington	5/30/2012			916-227-0721	5/30/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) **RW** PAGE 11 OF 1:

	SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 2	6	3591	6	0	0	0612000239-1

Segment 10 — **STA 15+40-15+74.59 L=34.59' H=12'**

ITEM		SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
1	"T" bars #4@18"	4	7	34.26		239.8									
2	"S" bars #5@18"	5	7	34.26			239.8								
3	"e" bars #6@10" X 5' for 8'														
4	"c" bars #6@9"	6	46	13.74				632.0							
4a	short "c" bars #6@9"														
5	#5@12"	5	35	10.20			357.0								
6	#5 tot 4	5	4	34.26			137.0								
7	#5@s=9"	5	46	5.80			266.8								
8	#5@12"	5	10	34.26			342.6								
9	"d" bars #6@s=9"	6	46	6.40				294.4							
10	#5@s=9"	5	46	3.34			153.6								
11	#5@12"	5	6	34.26			205.6								

NOTE: For computing steel in Standard Retaining Wall from the charts, use 99 for size. Show lb/ft to nearest pound.

	No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
TOTAL LENGTHS	0	240	1702	926	0	0	0	0	0	0	0
WT. PER FOOT	0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
TOTAL WT. PER SIZE	**0**	**160**	**1,776**	**1,392**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL WT. PER SHEET	**0**	**160**	**1,776**	**1,392**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

BY	DATE	REMARKS		NAME	VERIFY
G. Reyes-Gutierrez	5/30/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
Rachel Washington	5/30/2012			916-227-0721	5/30/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) **RW** PAGE 1 OF 1

		SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 4	GRG	6	3591	6	0	0	0612000239-1

Retaining Wall # 4 Summary (see segments in below sheets)

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
Total # of Segments =														
Type 1 Retaining Wall Reinforcement Totals				0.0	1425.7	7019.2	4726.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NOTE: For computing steel in Standard Retaining	TOTAL LENGTHS			0	1426	7019	4727	0	0	0	0	0	0	0
Wall from the charts, use 99 for size.	WT. PER FOOT			0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
Show lb/ft to nearest pound.	TOTAL WT. PER SIZE			**0**	**952**	**7,321**	**7,099**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL WT. PER SHEET			**0**	**952**	**7,321**	**7,099**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

BY	DATE	REMARKS	IN CASE OF QUESTION CONTACT:	NAME	VERIFY
G. Reyes-Gutierrez	5/30/2012			**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
Rachel Washington	5/30/2012			916-227-0721	5/30/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91)

RW

		SOURCE		CHARGE		EXPENDITURE	SPECIAL DES
		DIST	UNIT	DIST	UNIT	AUTHORIZATION	*WHEN APPLICABLE*
Retaining Wall # 4	GRG	6	3591	6	0	0	0612000239-1

Segment 1 — **STA 11+24-11+80 L=56' H=8'**

ITEM		SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE										
					No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
1	"T" bars #4@18"	4	6	55.67		334.0									
2	"S" bars #5@18"	5	6	55.67			334.0								
3	"e" bars #6@10" X 5' for 8'	6	60	15.00				900.0							
4	"c" bars #6@9"	6	75	12.57				942.8							
4a	short "c" bars #6@9"														
5	#5@12"	5	57	9.31			530.7								
6	#5 tot 4	5	4	55.67			222.7								
7	#5@s=9"	5	75	5.00			375.0								
8	#5@12"	5	8	55.67			445.4								
9	"d" bars #6@s=9"	6	75	5.67				425.3							
10	#5@s=9"	5	75	3.09			231.8								
11	#5@12"	5	6	55.67			334.0								
	STEP														
1	#5@16"	5	6	6.92			41.5								
2	#5@16"	5	6	10.54			63.2								
NOTE: For computing steel in Standard Retaining	TOTAL LENGTHS				0	334	2578	2268	0	0	0	0	0	0	0
Wall from the charts, use 99 for size.	WT. PER FOOT				0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
Show lb/ft to nearest pound.	TOTAL WT. PER SIZE				**0**	**223**	**2,689**	**3,407**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL WT. PER SHEET				**0**	**223**	**2,689**	**3,407**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

BY	DATE	REMARKS		NAME	VERIFY
G. Reyes-Gutierrez	5/30/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
Rachel Washington	5/30/2012			916-227-0721	5/30/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) **RW** PAGE 3 OF 1

		SOURCE		CHARGE		EXPENDITURE	SPECIAL DES
		DIST	UNIT	DIST	UNIT	AUTHORIZATION	*WHEN APPLICABLE*
Retaining Wall # 4	GRG	6	3591	6	0	0	0612000239-1

Segment 2 — **STA 11+80-12+56 L=76' H=10'**

	ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
1	"T" bars #4@18"	4	8	75.67		605.4									
2	"S" bars #5@18"	5	8	75.67			605.4								
3	"e" bars #6@10" X 5' for 8'														
4	"c" bars #6@9"	6	102	15.02				1532.0							
4a	short "c" bars #6@9"														
5	#5@12"	5	77	11.58			891.7								
6	#5 tot 4	5	4	75.67			302.7								
7	#5@s=9"	5	102	5.15			525.3								
8	#5@12"	5	8	75.67			605.4								
9	"d" bars #6@s=9"	6	102	5.83				594.7							
10	#5@s=9"	5	102	3.17			323.3								
11	#5@12"	5	6	75.67			454.0								
	STEP														
1	#5@16"	5	3	7.25			21.8								
2	#5@16"	5	6	10.22			61.3								

NOTE: For computing steel in Standard Retaining												
Wall from the charts, use 99 for size.	TOTAL LENGTHS	0	605	3791	2127	0	0	0	0	0	0	0
Show lb/ft to nearest pound.	WT. PER FOOT	0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
	TOTAL WT. PER SIZE	**0**	**404**	**3,954**	**3,194**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL WT. PER SHEET	**0**	**404**	**3,954**	**3,194**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

BY	DATE	REMARKS		NAME	VERIFY
G. Reyes-Gutierrez	5/30/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
Rachel Washington	5/30/2012			916-227-0721	5/30/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91)

RW

		SOURCE		CHARGE		EXPENDITURE	SPECIAL DES
		DIST	UNIT	DIST	UNIT	AUTHORIZATION	*WHEN APPLICABLE*
Retaining Wall # 4	GRG	6	3591	6	0	0	0612000239-1

Segment 3 — **STA 12+56-12+66 L=10' H=12'**

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
1 "T" bars #4@18"	4	9	9.67		87.0									
2 "S" bars #5@18"	5	9	9.67			87.0								
3 "e" bars #6@10" X 5' for 8'														
4 "c" bars #6@9"	6	14	17.39				243.5							
4a short "c" bars #6@9"														
5 #5@12"	5	11	13.69			150.6								
6 #5 tot 4	5	4	9.67			38.7								
7 #5@s=9"	5	14	5.64			79.0								
8 #5@12"	5	10	9.67			96.7								
9 "d" bars #6@s=9"	6	14	6.32				88.5							
10 #5@s=9"	5	14	3.34			46.8								
11 #5@12"	5	6	9.67			58.0								
PEDESTAL														
#4 @ 6"	4	10	13.10		131.0									
#4 @ 6 "	4	10	26.83		268.3									
#5 TOT 20	5	20	4.67			93.4								
TOTAL LENGTHS				0	486	650	332	0	0	0	0	0	0	0
WT. PER FOOT				0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
TOTAL WT. PER SIZE				**0**	**325**	**678**	**499**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL WT. PER SHEET				**0**	**325**	**678**	**499**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

NOTE: For computing steel in Standard Retaining Wall from the charts, use 99 for size. Show lb/ft to nearest pound.

BY	DATE	REMARKS	IN CASE OF QUESTION CONTACT:	NAME	VERIFY
G. Reyes-Gutierrez	5/30/2012			**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
Rachel Washington	5/30/2012			916-227-0721	5/30/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) **RW** PAGE 1 OF

		SOURCE		CHARGE		EXPENDITURE	SPECIAL DES
		DIST	UNIT	DIST	UNIT	AUTHORIZATION	*WHEN APPLICABLE*
Retaining Wall # 6	GRG	6	3591	6	0	0	0612000239-1

Retaining Wall # 6 Summary (see segments in below sheets)

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE										
				No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
Total # of Segments =														
Type 1 Retaining Wall Reinforcement Totals				0.0	1481.0	8255.1	936.2	3407.2	744.5	899.8	0.0	0.0	0.0	0.0

NOTE: For computing steel in Standard Retaining	TOTAL LENGTHS			0	1481	8255	936	3407	745	900	0	0	0	0
Wall from the charts, use 99 for size.	WT. PER FOOT			0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
Show lb/ft to nearest pound.	TOTAL WT. PER SIZE			**0**	**989**	**8,610**	**1,406**	**6,964**	**1,988**	**3,059**	**0**	**0**	**0**	**0**
	TOTAL WT. PER SHEET			**0**	**989**	**8,610**	**1,406**	**6,964**	**1,988**	**3,059**	**0**	**0**	**0**	**0**

BY	DATE	REMARKS		NAME	VERIFY
G. Reyes-Gutierrez	5/30/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
Rachel Washington	5/30/2012			916-227-0721	5/30/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91) **RW** PAGE 2 OF

		SOURCE		CHARGE		EXPENDITURE	SPECIAL DES
		DIST	UNIT	DIST	UNIT	AUTHORIZATION	*WHEN APPLICABLE*
Retaining Wall # 6	GRG	6	3591	6	0	0	0612000239-1

Segment 1 — **STA 13+37.23-13+45 L=7.77' H=14'**

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE										
				No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
1 "T" bars #4@18"	4	9	7.44		67.0									
2 "S" bars #5@18"	5	9	7.44			67.0								
3 "e" bars #6@10" X 5' for 8'	6	40	15.00				600.0							
4 "c" bars #6@7"	6	13	18.16				236.1							
4a short "c" bars #6@7"														
5 #5@12"	5	8	13.99			111.9								
6 #5 tot 4	5	4	7.44			29.8								
7 #5@s=7"	5	13	6.45			83.9								
8 #5@12"	5	12	7.44			89.3								
9 "d" bars #6@s=7"	6	13	7.70				100.1							
10 #5@s=7"	5	13	3.84			49.9								
11 #5@12"	5	8	7.44			59.5								
STEP														
1 #5@16"	5	8	9.25			74.0								
2 #5@16"	5	8	13.82			110.6								
TOTAL LENGTHS				0	67	676	936	0	0	0	0	0	0	0
WT. PER FOOT				0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
TOTAL WT. PER SIZE				**0**	**45**	**705**	**1,406**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL WT. PER SHEET				**0**	**45**	**705**	**1,406**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

NOTE: For computing steel in Standard Retaining Wall from the charts, use 99 for size.

Show lb/ft to nearest pound.

BY	DATE	REMARKS		NAME	VERIFY
G. Reyes-Gutierrez	5/30/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
Rachel Washington	5/30/2012			916-227-0721	5/30/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91)

RW

		SOURCE		CHARGE		EXPENDITURE	SPECIAL DES
		DIST	UNIT	DIST	UNIT	AUTHORIZATION	*WHEN APPLICABLE*
Retaining Wall # 6	GRG	6	3591	6	0	0	0612000239-1

Segment 2 — **STA 13+45-14+00 L=55' H=16'**

	ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE										
					No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
1	"T" bars #4@18"	4	11	54.67		601.4									
2	"S" bars #5@18"	5	15	54.67			820.1								
3	"e" bars #6@10" X 15' for 8'														
4	"c" bars #7@6"	7	55	22.51					1238.1						
4a	short "c" bars #7@6"	7	55	12.01					660.6						
5	#5@12"	5	55	17.66			971.3								
6	#5 tot 4	5	4	54.67			218.7								
7	#5@s=6"	5	110	6.91			760.1								
8	#5@12"	5	12	54.67			656.0								
9	"d" bars #9@s=6"	9	110	8.18							899.8				
10	#5@s=6"	5	110	4.34			477.4								
11	#5@12"	5	8	54.67			437.4								

NOTE: For computing steel in Standard Retaining												
Wall from the charts, use 99 for size.	TOTAL LENGTHS	0	601	4341	0	1899	0	900	0	0	0	0
Show lb/ft to nearest pound.	WT. PER FOOT	0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
	TOTAL WT. PER SIZE	**0**	**402**	**4,528**	**0**	**3,881**	**0**	**3,059**	**0**	**0**	**0**	**0**
	TOTAL WT. PER SHEET	**0**	**402**	**4,528**	**0**	**3,881**	**0**	**3,059**	**0**	**0**	**0**	**0**

BY	DATE	REMARKS		NAME	VERIFY
G. Reyes-Gutierrez	5/30/2012		IN CASE OF QUESTION CONTACT:	**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
Rachel Washington	5/30/2012			916-227-0721	5/30/2012

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

REINFORCING STEEL

DS-D 0110 (REV 8/91)

RW

		SOURCE DIST	SOURCE UNIT	CHARGE DIST	CHARGE UNIT	EXPENDITURE AUTHORIZATION	SPECIAL DES *WHEN APPLICABLE*
Retaining Wall # 6	GRG	6	3591	6	0	0	0612000239-1

Segment 3 — **STA 14+00-14+34.78 L=34.78' H=18'**

ITEM	SIZE	NO.	LENGTH	TOTAL LENGTH - EACH SIZE No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11	No 14	No 18
1 "T" bars #4@18"	4	12	34.45		413.4									
2 "S" bars #5@18", #5@12	5	15	34.45			516.8								
3 "e" bars #6@10" X 5' for 8'														
4 "c" bars #7@5"	7	42	23.24					976.1						
4a short "c" bars #7@5"	7	42	12.68					532.6						
5 #5@12"	5	35	17.89			626.2								
6 #5 tot 4	5	4	34.45			137.8								
7 #5@s=5"	5	83	7.66			635.8								
8 #5@12"	5	14	34.45			482.3								
9 "d" bars #8@s=5"	8	83	8.97						744.5					
10 #5@s=5"	5	83	4.84			401.7								
11 #5@12"	5	10	34.45			344.5								
PEDESTAL														
#4 @ 6"	4	10	13.10		131.0									
#4 @ 6 "	4	10	26.83		268.3									
#5 TOT 20	5	20	4.67			93.4								
NOTE: For computing steel in Standard Retaining — TOTAL LENGTHS				0	813	3238	0	1509	745	0	0	0	0	0
Wall from the charts, use 99 for size. — WT. PER FOOT				0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.650	13.600
Show lb/ft to nearest pound. — TOTAL WT. PER SIZE				**0**	**543**	**3,378**	**0**	**3,084**	**1,988**	**0**	**0**	**0**	**0**	**0**
TOTAL WT. PER SHEET				**0**	**543**	**3,378**	**0**	**3,084**	**1,988**	**0**	**0**	**0**	**0**	**0**

BY	DATE	REMARKS	IN CASE OF QUESTION CONTACT:	NAME	VERIFY
G. Reyes-Gutierrez	5/30/2012			**Richard Melko**	
CHECK	**DATE**			**BUSINESS PHONE NUMBER**	**DATE**
Rachel Washington	5/30/2012			916-227-0721	5/30/2012

5/2012 RW#2 Rebar Quantity

Section 1

STA 11+99.38 — 12+40 L=40.62 H=10 Havg=7.7 base=1.32

① t bar #4@18" $\frac{7.7(12)}{18}+1=6$ L=40.29

② sbar #5@18 Tot=6 L=40.29

③ cbars #6@10"x15' for 8'

10 (10 sets) x 15'

④ c bars #6@9" $\frac{40.29(12)}{9}+1=54$

L= 7.7-.16+1.33-.25+1.32+2.33-.33=11.94

⑤ #5 @12 | Tot=41 L= 7.7-.16+1.33-.25=8.62

⑥ #5 tot 4 L=40.29

⑦ #5 @s=9" Tot=54 L= 5.25-1.32+1.5-.16=5.27

⑧ #5@12 $\frac{(5.25-1.32)12}{12}+1=4(2)=8$ L=40.29

⑨ d bars #6@s=9" Tot=54 L=5.25-1.32+35(.0625)-.16

L=5.95

⑩ #5@s=9" Tot=54 L=2.33+1-.16=3.17

⑪ #5@12 $\frac{2.33(12)}{12}+1=3(2)=6$ L=40.29

STEP

① #5@16 $\frac{(3.33)(12)}{16}+1=3(2)=6$ L=7.58-.33=7.25'

② #5 @16 ⌈ 2 $\frac{7.25(12)}{16}+1=$ 6 sets

L=(3.33-.33+1)2 = 8'/Set.

OSP 07 104942

Section 2
STA 12+40 – 12+80 L=40 H=12 Havg = 8.49 base = 1.35

① t bars #4@18 $\frac{8.49(12)}{18}+1=6$ L= 39.67

② s bars #5@18 Tot = 6 L= 39.67

③ e bars

④ c bars #6@9" $\frac{39.67(12)}{9}+1=53$

L= 8.49 - .16 + 1.5 - .25 + 1.35 + 2.5 - .33 = 13.1

⑤ #5@12 Tot = 41 L= 8.49 - .16 + 1.5 - .25 = 9.58

⑥ #5 Tot 4 L= 39.67

⑦ #5@S=9" Tot = 53 L= 5.83 - 1.35 + 1.5 - .16 = 5.82

⑧ #5@12 $\frac{(5.83-1.35)12}{12}+1=5(2)=10$ L= 39.67

⑨ d bars #6@9" TOT = 53 L= 5.83 - 1.35 + 35(.0625) - .16 = 6.49

⑩ #5@S=9" Tot = 53 L= 2.33 + 1 - .16 = 3.17'

⑪ #5@12 $2.33\left(\frac{12}{12}\right)+1=3(2)=6$ L = 39.67

STEP

① #5@16 $\frac{4(12)}{16}+1=4(2)=8$ L= 8.33 - .33 = 8'

② #5@16 $\frac{2}{}$ $\frac{8.33(12)}{16}+1=7$ sets.

L = (4 + .33 + 2)(2) = 11.34 / set.

Section 3

STA 12+80 - 13+20 L = 40 # = 14 H_{Avg} = 9.8 base = 1.40

① t bars #4@18 $\frac{9.8(12)}{18} + 1 = 7$ L = 39.67

② s bars #5@18 Tot = 7 L = 39.67

③ e bars

④ c bars #6@7" $\frac{39.67(12)}{7} + 1 = 69$

L = 9.8 - .16 + 1.66 - .25 + 1.40 + 3 - .33 = 15.12

⑤ #5@12 / Tot = 41 L = 9.8 - .16 + 1.66 - .25 = 11.05

⑥ #5 Tot 4 L = 39.67

⑦ #5@s=7" Tot = 69 L = 6.58 - 1.4 + 1.5 - .16 = 6.52

⑧ #5@12 $\frac{(6.58-1.4)(12)}{12} + 1 = 6(2) = 12$ L = 39.67'

⑨ d bars #6@7" Tot = 69 L = 6.58 - 1.4 + 45(.0625) - .16 = 7.83

⑩ #5@s=7" Tot = 69 L = 3 - .33 + 1 = 3.67'

⑪ #5@12" $\frac{3(12)}{12} + 1 = 4(2) = 8$ L = 39.67'

STEP

① #5@16 $\frac{3.16(12)}{16} + 1 = 3(2) = 6$ L = 9.58 - .33 = 9.25

② #5@16 $\frac{9.25(12)}{16} + 1 = 7$ sets. (2)

L = (3.16 - .33 + 2)2 = 9.66' / set.

Section 4

STA 13+20 - 13+40 L=20 H=14 Havg=10.51 base=1.43

(1) t bars #4 @ 18 $\frac{10.18(12)}{18}+1=7$ L=19.67'

(2) S bars #5 @ 18 TOT=7 L=19.67'

(3) e bars

(4) c bars #6 @ 7" $\frac{19.67(12)}{7}+1=34$

L=10.51-.16+1.66-.25+1.43+3-.33=15.86

(5) #5 @ 12 TOT=21 L=10.51-.16+1.66-.25=11.76'

(6) #5 tot 4 L=19.67'

(7) #5 @ S=7" Tot=34 L=6.58-1.43+1.5-.16=6.49

(8) #5 @ 12 $\frac{(6.42-1.43)12}{12}+1=5(2)=10$ L=19.67

(9) d bars #6 @ 7" TOT=34 L=6.58-1.43+45(.0625)-.16
L=7.80

(10) #5 @ S=7" Tot=34 L=3+1-.16=3.84

(11) #5 @ 12 $\frac{2.67(12)}{12}+1=3(2)=6$ L=19.67

STEP

(1) #5 @ 16 $\frac{3.16(12)}{16}+1=3(2)=6$ L=9.58-.33=9.25

(2) #5 @ 16 $\frac{9.25(12)}{16}+1=7$ sets

L=(3.16-.33+2)2=9.66 / Set.

GRG 06-ZH7201 5 10

DATE 5/2012 SUBJECT RW#2 Rebar Quantity

Section 5

STA 13+40 – 13+60 L=20 # = 14 $\#_{Avg}$ = 11.41 base = 1.47

① t bars #4 @18 $\frac{(11.41)(12)}{18}+1=8$ L = 19.67

② s bars #5 @ 18 Tot = 8 L = 19.67

③ e bars

④ c bars #6 @7" $\frac{19.67(12)}{7}+1=34$

L = 11.41 − .16 + 1.66 − .25 + 1.47 + 3 − .33 = 16.8'

⑤ #5 @12 Tot = 21 L = 11.41 − .16 + 1.66 − .25 = 12.66

⑥ #5 tot 4 L = 19.67

⑦ #5 @S = 7" Tot = 34 L = 6.58 − 1.47 + 1.5 − .16 = 6.45

⑧ #5 @12 $\frac{(6.42-1.47)12}{12}+1=5(2)=10$ L = 19.67

⑨ d bars #6 @7" Tot = 34 L = 6.58 − 1.47 + 45(.0625) − .16 = 7.76'

⑩ #5 @S = 7" Tot = 34 L = 3 + 1 − .16 = 3.84

⑪ #5 @12 $\frac{2.67(12)}{12}+1=3(2)=6$ L = 19.67'

5/2012. RW#2 Rebar Quantity

Section 6
STA 13+60 – 13+80 L=20 H=16 H avg = 10.71 base = 1.44

① t bar #4 @18 $\frac{(10.71)(12)}{18}+1 = 8$ L = 19.67'

② s bars #5 @18 $[(5.35)(12)/18]+1 = 4 > 10$
#5 @12 $[\frac{5.35(12)}{12}+1 = 6$

③ e bars
④a e short #7@6" Tot = 20 L = 5.75+1.66-.25+1.44+3.5-.33 = 11.77
④ e bars #7@6" $\frac{19.67(12)}{2(6)}+1 = 20$

L = 10.71-.16+1.66-.25+1.44+3.5-.33 = 16.57

⑤ #5 @12 Tot = 21 L = 10.71-.16+1.66-.25 = 11.96

⑥ #5 tot 4 L = 19.67

⑦ #5 @ s=6" Tot = 40 L = 7.25-1.44+15-.16 = 7.15

⑧ #5 @12 $\frac{(7.25-1.44)(12)}{12}+1 = 6(2) = 12$ L = 19.67

⑨ d bars #9 @6" Tot = 40 L = 7.25-1.44+45(.0625)-.16
L = 8.46

⑩ #5 @ s=6" Tot = 40 L = 3.5+1-.16 = 4.34'

⑪ #5 @12 $\frac{3.17(12)}{12}+1 = 4(2) = 8$ L = 19.67'

STEP

① #5 @16 $\frac{3.66(12)}{16}+1 = 3(2) = 6$ L = 10.75-.33 = 10.42

② #5 @16 $\lceil^{2}$ $\frac{(10.42)(12)}{16}+1 = 8$ sets.

L = (3.66+2-.33)2 = 10.66' / set.

DATE 5/2012 RW#2 Rebar Quantity

Section 7
Sta 13+80 — 14+40 L = 60 H = 16 #Avg = 11.14 base = 1.46

① t bars #4@18 $\frac{(11.14)(12)}{18}+1 = 8$ L = 59.67

② s bars #5@18 $\frac{(5.57)(12)}{18}+1 = 4$ > 10 L = 59.67
#5@12 $\frac{(5.57)(12)}{12}+1 = 6$

③ ebars
④ ebars #7@6" $\frac{(59.67)(12)}{6}+1 = 120/2 = 60$ short (4a) 60 tall

L = 11.14 − .16 + 1.66 − .25 + 1.46 + 3.5 − .33 = 17.02 Tall
L short = 5.75 + 1.66 − .25 + 1.46 + 3.5 − .33 = 11.79

⑤ #5@12 | Tot = 61 L = 11.14 − .16 + 1.66 − .25 = 12.39

⑥ #5 tot 4 L = 59.67
⑦ #5@s=6" Tot = 120 L = 7.25 − 1.46 + 1.5 − .16 = 7.13

⑧ #5@12 $\frac{(7.25-1.46)12}{12}+1 = 6(2) = 12$ L = 59.67

⑨ d bars #9@6" Tot = 120 L = 7.25 − 1.46 + 45(.0625) − .16
L = 8.44

⑩ #5@s=6" Tot = 120 L = 3.5 + 1.0 − .16 = 4.34

⑪ #5@12 $\frac{3.5(12)}{12}+1 = 4(2) = 8$ L = 59.67.

STEP

① #5@16 $\frac{3.33(2)}{16}+1 = 3(2) = 6$ L = 10.75 − .33 = 10.42

② #5@16 | 2 $\frac{(10.42)(12)}{16}+1 = 8$ sets.

L = 3.33 − .33 + 2 = 5(2) = 10' / set.

Section 8

STA 14+40 – 15+00 L=60 H=14 Havg=10.13 base=1.42

① t bar #4@18 $\frac{10.13(12)}{18}+1=7$ L=59.67

② s bars #5@18 Tot=7 L=59.67
③ e bars
④ c bars #6@7" $\frac{59.67(12)}{7}+1=103$

L=10.13-.16+1.66-.25+1.42+3-.33=15.47

⑤ #5@12 Tot=61 L=10.13-.16+1.66-.25=11.38

⑥ #5 tot 4 L=59.67

⑦ #5@s=7" Tot=103 L=6.58-1.42+1.5-.16=6.5'

⑧ #5@12 $\frac{(6.58-1.42)12}{12}+1=6(2)=12$ L=59.67

⑨ d bar #6@7" Tot=103 L=6.58-1.42+45(.0625)-.16
L=7.81

⑩ #5@s=7" Tot=103 L=3+1-.16=3.84

⑪ #5@12 $\frac{3(12)}{12}+1=4(2)=8$ L=59.67

STEP

① #5@16 $\frac{3.33(12)}{16}+1=3(2)=6$ L=9.58-.33=9.25

② #5@16 (2) $\frac{9.25(12)}{16}+1=7$ sets

L=3.33-.33+2=5(2)=10'/set.

Section 9

STA 15+00 – 15+40 $L=40$ $H=14$ $H_{AVG}=10.32$ $b_{bars}=1.43$

① tbars #4@18" $\frac{(10.32)12}{18}+1=7$ $L=39.67$

② sbars #5@18 Tot=7 $L=39.67$

③ ebars

④ ebars #6@7" $\frac{39.67(12)}{7}+1=69$

$L=10.32-.16+1.66-.25+1.43+3-.33=15.61$

⑤ #5@12 | Tot=41 $L=10.32-.16+1.66-.25=11.57$

⑥ #5 Tot 4 $L=39.67$

⑦ #5@s=7" Tot=69 $L=6.58-1.43+1.5-.16=6.49'$

⑧ #5@12 $\frac{(6.42-1.43)12}{12}+1=5(2)=10$ $L=39.67$

⑨ d bars #6@7" Tot=69 $L=6.58-1.43+45(.0625)-.16=7.8$

⑩ #5@s=7" Tot=69 $L=3+1-.16=3.84$

⑪ #5@12 $\frac{3(12)}{12}+1=4(2)=8$ $L=39.67$

GRG 06-2HT201 10 10

5/2012 RW#2 Rebar Quantity

Section 10

STA 15+40 – 15+74.59 L=34.59 H=12 H_{Avg}=9.11 base= 1.37

① tbar #4 @18 $\frac{(9.11)(12)}{18}+1=7$ L=34.26

② sbars #5@18 Tot=7 L=34.26

③ ebars

④ cbars #6@9" $\frac{34.26(12)}{9}+1=46$

L=9.11-.16+1.5-.25+1.37+2.5-.33=13.74

⑤ #5@12 Tot=35 L=9.11-.16+1.5-.25=10.2

⑥ #5 tot 4 L=34.26

⑦ #5@S=9" Tot=46 L=5.83-1.37+1.5-.16=5.8

⑧ #5@12 $\frac{(5.83-1.37)}{12}12+1=5(2)=10$ L=34.26

⑨ dbars #6@9" Tot=46 L=5.83-1.37+35(.0625)-.16=6.4

⑩ #5@S=9" Tot=46 L=2.5+1-.16=3.34

⑪ #5@12 $\frac{2.5(12)}{12}+1=3(2)=6$ L=34.26

5/2012 RW#4 Rebar Quantity

Section 1 STA 11+24 – 11+80 L = 56' H = 8'

① tbar #4@18" $\frac{(8.39)(12)}{18}+1=6$ L = 55.67

② sbar #5@18" TOT = 6 L = 55.67

③ ebar #6@10" x 15' for 8'
(6 sets)(10) x 15'

④ cbar #6@9 $\frac{56(12)}{9}+1=75$

L = 8.39 -.16 + 1.33 -.25 + 1.34 + 2.25 -.33 = 12.57'

⑤ #5@12 TOT=57 L = 8.39 -.16 + 1.33 -.25 = 9.31'

⑥ #5 tot 4 L = 55.67

⑦ #5@5"±9" TOT = 75 L = 5' - 1.34 + 1.5 -.16 = 5

⑧ #5@12 $\frac{(5-1.34)(12)}{12}+1=4(2)=8$ L = 55.67

⑨ d bar #6@9" TOT = 75 L = 5.0 - 1.34 + 35(.0625) -.16 = 5.67'

⑩ #5@s=9" TOT = 75 L = 2.25 + 1 -.16 = 3.09'

⑪ #5@12 $\frac{2.25(12)}{12}+1=3(2)=6$ L = 55.67

STEP

① #5@16 $\frac{(3.6)(12)}{16}+1=3(2)=6$ L = 7.25 -.33 = 6.92'

② #5@16 (2) $\frac{7.25(12)}{16}+1=6$ sets

L = 3.6 -.33 + 2 = 5.27(2) = 10.54' / set

GRG 06-2HT201 2 3

5/2012 RW #4 Rebar Quantity

Sect 2 STA 11+80 - 12+56 L = 76' H = 10'

① t bars #4 @18" $\frac{10.66(12)}{18}+1=8$ L = 75.67

② s bars #5 @18" Tot = 8 L = 75.67

③ e bars #6 @10" x 15' for 8'

④ c bars #6 @9 $\frac{76(12)}{9}+1=102$

L = 10.66 - .16 + 1.33 - .25 + 1.44 + 2.33 - .33 = 15.02'

⑤ #5 @12 | Tot = 77 L = 10.66 - .16 + 1.33 - .25 = 11.58'

⑥ #5 Tot 4 L = 75.67

⑦ #5 @ s=9" Tot = 102 L = 5.25 - 1.44 + 1.5 - .16 = 5.15'

⑧ #5 @ 12 $\frac{(5.25-1.44)12}{12}+1=4(2)=8$ L = 75.67

⑨ d bars #6 @ s=9" Tot = 102 L = 5.25 - 1.44 + 35(.0625) - .16

L = 5.83

⑩ #5 @ s=9" Tot = 102 L = 2.33 + 1 - .16 = 3.17

⑪ #5 @12 $\frac{2.33(12)}{12}+1=3(2)=6$ L = 75.67

Step

① #5 @16 $\frac{3.44(12)}{16}+1=3$ L = 7.58 - .33 = 7.25'

② #5 @16 | 2

$\frac{7.58(12)}{16}+1=6$ sets

L = (3.44 - .33 + 2)(2) = 10.22' / Set

5/2012 RW#4 Rebar Quantity

Section 3 STa 12+56 - 12+66 L=10' H=12'

① t bars #4 @18" $\frac{(12.6)(12)}{18}+1=9$ L=9.67

② s bars #5@18" TOT = 9 L=9.67

③ e bars #6@10" x 15' Sa 8'
shown in sect 1

④ c bars #6@9 $\frac{10(12)}{9}+1=14$

L = 12.6 - .16 + 1.5 - .25 + 1.53 + 2.5 - .33 = 17.39'

⑤ #5 @12 | TOT = 11 L = 12.6 - .16 + 1.5 - .25 = 13.69
⑥ #5 TOT 4 L = 9.67

⑦ #5 c@9" TOT = 14 L = 5.83 - 1.53 + 1.5 - .16 = 5.64

⑧ #5 @12 $\frac{(5.83-1.53)(12)}{12}+1=5(2)=10$ L = 9.67

⑨ d bars #6@9 TOT 14 L = 5.83 - 1.53 + 35(.0625) - .16 = 6.32

⑩ #5 @s=9" TOT = 14 L = 2.5 + 1 - .16 = 3.34'

⑪ #5@12 $\frac{2.5(12)}{12}+1=3(2)$ L=9.67
=6

Section 1 STA 13+37.23 - 13+45 L = 7.77 H = 14' H_{Avg} = 12.74
base = 1.53

① t bars #4 @ 18' $\frac{12.74(12)}{18} + 1 = 9$ L = 2.44

② S bars #5 @ 18 ToT = 9 L = 7.44

③ e bars #6 @ 10" x 15' for 8'
∴ 10 (4 sets) = 40 x 15'

④ c bars #6 @ 7 $\frac{7.44(12)}{7} + 1 = 13$

L = 12.74 - .16 + 1.66 - .25 + 1.5 + 3 - .33 = 18.16

⑤ #5 @ 12 | ToT = 8 L = 12.74 - .16 + 1.66 - .25 = 13.99'

⑥ #5 ToT 4 L = 7.44

⑦ #5 @ s = 7" ToT = 13 L = 6.58 - 1.50 + 1.53 - .16 = 6.45

⑧ #5 @ 12' $\frac{(6.58 - 1.5)(12)}{12} + 1 = 6(2) = 12$ L = 7.44

⑨ d bars #6 @ 7" ToT = 13 L = 6.58 - 1.5 + 45(.0625) - .16
L = 7.7

⑩ #5 @ s = 7" ToT = 13 L = 3 + 1 - .16 = 3.84'

⑪ #5 @ 12 $\frac{3(12)}{12} + 1 = 4(2) = 8$ L = 7.44

STEP

① #5 @ 16 $\frac{5.24(12)}{16} + 1 = 4(2) = 8$ L = 9.58 - .33 = 9.25'

② #5 @ 16 | 2 $\frac{9.58(12)}{16} + 1 = 8$ sets.

L = (5.24 - .33 + 2) 2 = 13.82 / set.

GRC 06-ZHT201 2 3

DATE 5/2012 RW#6 Rebar Quantity

Section 2 STA 13+45 – 14+00 L=55 H=16' H_{Avg}=16.41
base=1.68

① t bars #4@18 $\frac{(16.41)(12)}{18}+1=11$ L=54.67

② s bars #5@18 $\frac{(8.2)(12)}{18}+1=6$ $\frac{8.2(12)}{12}=8+1=9$ TOT=15 L=54.67
#5@12

③ e bars #6@10"x15' for 8'

④ c bars #7@6" $\frac{54.67(12)}{2(6)}+1=55$
L=16.41 -.16+1.66-.25+1.68+3.5-.33=22.51

④a short c bars #7@6 TOT=55
L=5.75+1.66-.25+1.68+3.5-.33=12.01

⑤ #5@12 TOT=55 L=16.41-.16+1.66-.25=17.66

⑥ #5 tot 4 L=54.67

⑦ #5@s=6" $\frac{54.67(12)}{6}+1=110$ L=7.25-1.68+1.5-.16=6.91

⑧ #5@12 $\frac{(7.25-1.72)12}{12}+1=6(2)=12$ L=54.67

⑨ d bars #9@s=6" TOT=110 L=7.25-1.68+45(.0625)-.16
L=8.19

⑩ #5@s=6 TOT=110 L=3.5+1-.16=4.34

⑪ #5@12 $\frac{3.5(12)}{12}+1=4(2)=8$ L=54.67

OSF 07 10/9/12

Section 3 STA 14+00 – 14+34.78 L = 34.78 # = 18 #Avg = 16.55
base = 1.68

① t bar #4@18 $\frac{16.55(12)}{18}+1=12$ L = 34.45

② s bars #5@18 $\frac{(8.27)(12)}{18}+1=6$ $\frac{8.27(12)}{12}+1=9$ TOT = 15
#5@12 L = 34.45

③ e bars #6@10" x 15' for 8'
Shown in segment 1

④ c bars #7@5 $\frac{34.45(12)}{2(5)}+1=42$
L = 16.55 -.16 + 1.75 -.25 + 1.68 + 4 -.33 = 23.24

④a short c bars #7@5 Tot = 42
L = 5.83 + 1.75 -.25 + 1.68 + 4 -.33 = 12.68

⑤ #5@12 | 35 = TOT L = 16.55 -.16 + 1.75 -.25 = 17.89

⑥ #5 tot 4 L = 34.45

⑦ #5@s=5" $\frac{34.45(12)}{5}+1=83$ L = 8 - 1.68 + 1.5 -.16 = 7.66

⑧ #5@12 $\frac{(8-1.68)12}{12}+1=7(2)=14$ L = 34.45

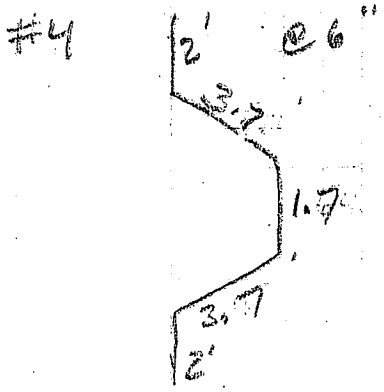
⑨ d bars #8@5" Tot = 83 L = 8 - 1.68 + #5(.0625) -.16 = 8.97

⑩ #5@s=5" Tot = 83 L = 4 + 1 -.16 = 4.84

⑪ #5@12 $\frac{4(12)}{12}+1=5(2)=10$ L = 34.45

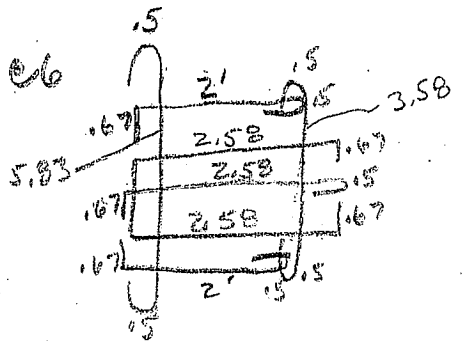
Rebar Quantity Street Light + Pedestal
Rlo # 4 & #6
GRG 5/2012

Rlo #

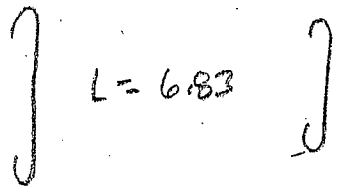
#4 

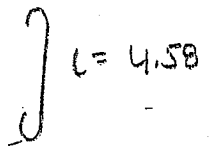
L = 13.1'

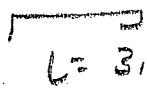
$\frac{(5-.33)(12)}{6} + 1 = 10$ (2 Pedestals) = 20

#4 @6 

!, Total = 10(2 pedestals) = 20


L = 6.83


L = 4.58


L = 3.17


L = 8.5


L = 3.75

L total = 26.83

#5 tot 20 20(2) = 40 L = 5' - .33 = 4.67

Fresno Street Retaining Wall # 2,4,6

Minor Concrete Gutter

Location			(Lineal Feet)
Retaining Wall # 4			142.0
Retaining Wall # 6			97.55
	Minor Concrete Gutter:		240

Concrete Quantities
Fresno St. Retaining Walls
06-2HT201

Rich Melko
5/16/2012

Summary

Wall	Footing Volume ft³	Footing Volume CYD	Stem Volume ft³	Stem Volume CYD	Total Volume ft³	Total Volume CYD
1	6,501.7	240.8	4,973.4	184.2	11,475.1	425.0
2	6,484.8	240.2	4,739.7	175.5	11,224.6	415.7
3	1,654.9	61.3	1,735.7	64.3	3,390.6	125.6
4	1,602.4	59.3	1,701.1	63.0	3,303.5	122.4
5	1,819.9	67.4	2,007.8	74.4	3,827.7	141.8
6	2,038.1	75.5	2,327.4	86.2	4,365.5	161.7
1,3,5	9,976.5	369.5	8,717.0	322.9	18,693.5	692.4
2,4,6	10,125.3	375.0	8,768.3	324.8	18,893.6	699.8

Retaining Wall 1

General Information											Footing Volume						Stem Volume					Total Volume	
Station 1 ft	Station 2 ft	Section	Design H ft	Bottom Ftg Elev ft	Top of Wall 1 ft	Top of Wall 2 ft	W ft	F ft	Key ft²	Section Length ft	Step at Begin?	Step Volume ft³	Key Length ft	Key Volume ft³	Footing Volume ft³	Total Footing Volume ft³	Average Real H ft	Top Thick in	Bottom Thick in	Stem Area ft²	Stem Volume ft³	ft³	CYD
1200	1240	1	10	272.50	282.96	282.06	7.58	1.33	0.89	40.00		0.00	39.00	34.67	403.43	438.10	8.68	12	16.34	10.25	409.99	848.09	31.41
1240	1280	2	12	270.50	282.06	281.16	8.33	1.50	2.00	40.00	x	15.17	40.00	80.00	499.80	594.97	9.61	12	16.81	11.53	461.36	1056.33	39.12
1280	1320	3	14	268.00	281.16	279.92	9.58	1.67	2.00	40.00	x	20.83	40.00	80.00	640.17	740.99	10.87	12	17.44	13.33	533.26	1274.26	47.19
1320	1340	4	14	266.00	279.92	279.12	9.58	1.67	2.00	20.00	x	19.17	20.00	40.00	320.08	379.25	11.85	12	17.93	14.78	295.51	674.76	24.99
1340	1360	5	14	265.00	279.12	278.32	9.58	1.67	2.00	20.00	x	9.58	21.00	42.00	320.08	371.67	12.05	12	18.03	15.08	301.50	673.17	24.93
1360	1380	6	16	265.00	278.32	277.52	10.75	1.67	2.00	20.00		0.00	19.00	38.00	359.05	397.05	11.25	12	17.63	13.89	277.73	674.78	24.99
1380	1440	7	16	262.33	277.52	275.12	10.75	1.67	2.00	60.00	x	28.70	60.00	120.00	1077.15	1225.85	12.32	12	18.16	15.48	928.93	2154.78	79.81
1440	1500	8	14	261.66	275.12	272.72	9.58	1.67	2.00	60.00	x	6.42	60.00	120.00	960.25	1086.67	10.59	12	17.30	12.93	775.59	1862.26	68.97
1500	1540	9	14	259.00	272.72	271.12	9.58	1.67	2.00	40.00	x	25.49	41.00	82.00	640.17	747.66	11.25	12	17.63	13.89	555.47	1303.13	48.26
1540	1575.84	10	12	259.00	271.12	269.92	8.33	1.50	2.00	35.84		0.00	35.84	71.68	447.82	519.50	10.02	12	17.01	12.11	434.08	953.58	35.32
																6,501.7					4,973.4	11,475.1	425.0

Retaining Wall 2

General Information											Footing Volume						Stem Volume					Total Volume	
Station 1 ft	Station 2 ft	Section	Design H ft	Bottom Ftg Elev ft	Top of Wall 1 ft	Top of Wall 2 ft	W ft	F ft	Key ft²	Section Length ft	Step at Begin?	Step Volume ft³	Key Length ft	Key Volume ft³	Footing Volume ft³	Total Footing Volume ft³	Average Real H ft	Top Thick in	Bottom Thick in	Stem Area ft²	Stem Volume ft³	ft³	CYD
1199.38	1240	1	10	272.50	282.55	281.51	7.58	1.33	0.89	40.62		0.00	39.62	35.22	409.69	444.90	8.20	12	16.10	9.60	389.99	834.89	30.92
1240	1280	2	12	270.50	281.51	280.48	8.33	1.50	2.00	40.00	x	15.17	40.00	80.00	499.80	594.97	9.00	12	16.50	10.68	427.23	1022.19	37.86
1280	1320	3	14	268.00	280.48	279.46	9.58	1.67	2.00	40.00	x	20.83	40.00	80.00	640.17	740.99	10.30	12	17.15	12.51	500.41	1241.40	45.98
1320	1340	4	14	266.50	279.46	278.91	9.58	1.67	2.00	20.00	x	14.38	20.00	40.00	320.08	374.46	11.02	12	17.51	13.54	270.85	645.31	23.90
1340	1360	5	14	265.00	278.91	278.26	9.58	1.67	2.00	20.00	x	14.38	21.00	42.00	320.08	376.46	11.92	12	17.96	14.87	297.45	673.91	24.96
1360	1380	6	16	265.00	278.26	277.50	10.75	1.67	2.00	20.00		0.00	19.00	38.00	359.05	397.05	11.21	12	17.61	13.83	276.56	673.61	24.95
1380	1440	7	16	263.00	277.50	275.14	10.75	1.67	2.00	60.00	x	21.50	60.00	120.00	1077.15	1218.65	11.65	12	17.83	14.48	868.65	2087.30	77.31
1440	1500	8	14	261.66	275.14	272.78	9.58	1.67	2.00	60.00	x	12.84	60.00	120.00	960.25	1093.09	10.63	12	17.32	12.98	779.05	1872.14	69.34
1500	1540	9	14	259.50	272.78	271.20	9.58	1.67	2.00	40.00	x	20.70	41.00	82.00	640.17	742.87	10.82	12	17.41	13.26	530.36	1273.23	47.16
1540	1574.59	10	12	259.50	271.20	270.03	8.33	1.50	2.00	34.59		0.00	34.59	69.18	432.20	501.38	9.62	12	16.81	11.54	399.20	900.59	33.36
																6,484.8					4,739.7	11,224.6	415.7

Retaining Wall 3

General Information											Footing Volume						Stem Volume					Total Volume	
Station 1	Station 2	Section	Design H	Bottom Ftg Elev	Top of Wall 1	Top of Wall 2	W	F	Key	Section Length	Step at Begin?	Step Volume	Key Length	Key Volume	Footing Volume	Total Footing Volume	Average Real H	Top Thick	Bottom Thick	Stem Area	Stem Volume		
ft	ft		ft	ft	ft	ft	ft	ft	ft^2	ft		ft^3	ft	ft^3	ft^3	ft^3	ft	in	in	ft^2	ft^3	ft^3	CYD
1117.46	1160	1	8	278.50	287.90	287.81	7.25	1.33	0.89	42.54		0.00	41.54	36.92	410.19	447.12	8.03	12	16.01	9.37	398.46	845.57	31.32
1160	1255	2	10	276.00	287.81	287.62	7.58	1.33	0.89	95.00	x	18.13	95.00	84.44	958.15	1060.72	10.39	12	17.19	12.63	1200.02	2260.75	83.73
1255	1263.83	3	12	273.75	287.62	287.60	8.33	1.50	2.00	8.83	x	17.06	9.83	19.66	110.33	147.05	12.36	12	18.18	15.54	137.24	284.30	10.53
																1,654.9					1,735.7	3,390.6	125.6

Retaining Wall 4

General Information											Footing Volume						Stem Volume					Total Volume	
Station 1	Station 2	Section	Design H	Bottom Ftg Elev	Top of Wall 1	Top of Wall 2	W	F	Key	Section Length	Step at Begin?	Step Volume	Key Length	Key Volume	Footing Volume	Total Footing Volume	Average Real H	Top Thick	Bottom Thick	Stem Area	Stem Volume		
ft	ft		ft	ft	ft	ft	ft	ft	ft^2	ft		ft^3	ft	ft^3	ft^3	ft^3	ft	in	in	ft^2	ft^3	ft^3	CYD
1124	1180	1	8	278.38	288.10	288.10	7.25	1.33	0.89	56.00		0.00	55.00	48.89	539.98	588.87	8.39	12	16.20	9.86	551.96	1140.83	42.25
1180	1256	2	10	276.11	288.10	288.10	7.58	1.33	0.89	76.00	x	16.46	76.00	67.56	766.52	850.54	10.66	12	17.33	13.03	990.08	1840.62	68.17
1256	1266	3	12	274.00	288.10	288.10	8.33	1.50	2.00	10.00	x	16.00	11.00	22.00	124.95	162.95	12.60	12	18.30	15.91	159.08	322.03	11.93
																1,602.4					1,701.1	3,303.5	122.4

Retaining Wall 5

General Information											Footing Volume						Stem Volume					Total Volume	
Station 1	Station 2	Section	Design H	Bottom Ftg Elev	Top of Wall 1	Top of Wall 2	W	F	Key	Section Length	Step at Begin?	Step Volume	Key Length	Key Volume	Footing Volume	Total Footing Volume	Average Real H	Top Thick	Bottom Thick	Stem Area	Stem Volume		
ft	ft		ft	ft	ft	ft	ft	ft	ft^2	ft		ft^3	ft	ft^3	ft^3	ft^3	ft	in	in	ft^2	ft^3	ft^3	CYD
1332.96	1360	1	12	273.75	287.60	288.14	8.33	1.50	2.00	27.04		0.00	26.04	52.08	337.86	389.94	12.62	12	18.31	15.94	430.96	820.91	30.40
1360	1430.21	2	16	270.50	288.14	289.54	10.75	1.67	2.00	70.21	x	27.07	71.21	142.42	1260.45	1429.94	16.67	12	20.34	22.46	1576.87	3006.81	111.36
																1,819.9					2,007.8	3,827.7	141.8

Retaining Wall 6

General Information											Footing Volume						Stem Volume					Total Volume	
Station 1	Station 2	Section	Design H	Bottom Ftg Elev	Top of Wall 1	Top of Wall 2	W	F	Key	Section Length	Step at Begin?	Step Volume	Key Length	Key Volume	Footing Volume	Total Footing Volume	Average Real H	Top Thick	Bottom Thick	Stem Area	Stem Volume		
ft	ft		ft	ft	ft	ft	ft	ft	ft^2	ft		ft^3	ft	ft^3	ft^3	ft^3	ft	in	in	ft^2	ft^3	ft^3	CYD
1337.23	1345	1	14	274.00	289.40	289.42	9.58	1.67	2.00	7.77		0.00	6.77	13.54	124.35	137.89	13.74	12	18.87	17.67	137.32	275.21	10.19
1345	1400	2	16	270.42	289.42	289.59	10.75	1.67	2.00	55.00	x	34.31	56.00	112.00	987.39	1133.70	17.42	12	20.71	23.73	1305.34	2439.03	90.33
1400	1434.78	3	18	270.42	289.59	289.70	12.00	1.67	2.00	34.78		0.00	34.78	69.56	696.99	766.55	17.56	13	21.78	25.44	884.74	1651.30	61.16
																2,038.1					2,327.4	4,365.5	161.7

STATE OF CALIFORNIA-DEPARTMENT OF TRANSPORTATION

SUMMARY-STRUCTURE EXCAVATION AND STRUCTURE BACKFILL

DS-D-0022 (REV. 02/11/08)

Estimating Section to forward to RE Pending File

STRUCTURE				BRIDGE NUMBER	DATE	CALCULATED BY
RW 2, 4, 6					5/14/2012	S. MORIMOTO
DISTRICT	COUNTY	ROUTE	EA NUMBER			CHECKED BY
6			06-2HT201			G.R.-GUTIERREZ

LOCATION	STRUCTURE EXCAVATION		STRUCTURE BACKFILL		PERVIOUS BACKFILL MATERI	
	ESTIMATE	CHECK	ESTIMATE	CHECK	ESTIMATE	CHECK
RW 2, 4, 6	2641	2671	1687	1708		
TOTAL CY	**2641**	**2671**	**1687**	**1708**	**0**	**0**

① STA 11+24 - 11+45.5 L = 21.5 STA 11+45.5 - 11+50 Quantity with next section Due to Return wall.

Excav: [(3)(6.49) + (6.5)(8.72) + (1.33)(.67)] 21.5
= 1468.90 ft³ = 54.40 Cu yd.

Backfill = [(2)(1)(1.33) + (3)(5.16) + (4.16)(7.39)] 21.5
= 1050.97 ft³ = 38.92 Cu yd.

② STA 11+50 - 11+80 L = 30
Excav: [(3.0)(4.78) + (5.5)(8.62) + (1.33)(.67)] 30'
= 1879.23 ft³ = 69.60 Cu yd.

Backfill = [(2)(1)(1.33) + (3.0)(3.45) + (4.16)(7.29)] 30'
= 1300.09 ft³ = 48.15 Cu yd.

③ STA 11+80 - 12+00 L = 20
Excav: [(3.25)(6.24) + (6.25)(10.89) + (1.33)(.67)] 20'
= 1784.67 ft³ = 66.09 Cu yd.

Backfill: [(2)(1)(1.33) + (3.25)(4.91) + (4.81)(9.56)] 20'
= 1292.02 ft³ = 47.85 Cu yd.

④ STA 12+00 - 12+56.10 L = 56
Excav: [(3.25)(6.71) + (10.25)(17.08) + (8.5)(10.89) + 2(1.33)(.67)] (56)
= 16308.58 ft³ = 604.02 Cu yd.

Backfill: [(1)(1.33) + (3.25)(5.38) + (5)(1.33) + (8.84)(9.28)
+ (2.25)(3.09) + (3.81)(9.56) + (1)(1.33)] (56)

= 8523.55 ft³ = 315.68 Cu yd.

(5) STA 12+56 - 12+66 L = 10'

Excav: [(3.25)(6.71) + (9.75)(17.08) + (10.5)(13.0) + 2(1.33)(.67)] 10'
= 3266.19 ft³ = 120.97 Cu yd.

Backfill: [(1)(1.33) + (3.25)(5.38) + (4.5)(1.33) + (8.34)(9.28)
+ (2.75)(5.2) + (6.22)(11.67) + (1)(1.33)] 10'
= 1904.12 ft³ = 70.52 cu yd.

(6) STA 12+66 - 12+80 L = 14

Excav: [(3.25)(6.71) + (6.25)(10.36) + (1.33)(.67)] 14
= 1224.28 ft³ = 45.34 Cu yd.

BACKFILL: [2(1)(1.33) + (3.25)(5.38) + (4.84)(9.03)] 14'
= 893.90 ft³ = 33.10 Cu yd.

(7) STA 12+80 - 13.37.23 L = 57.23

Excav: [(3.75)(6.08) + (7.75)(11.91) + (2)(1)] 57.23'
= 6701.77 ft³ = 248.21 Cu yd.

BACKFILL: [(2)(1)(1.33) + (3.75)(4.75) + (6.27)(10.58)] 57.23'
= 4968.08 ft³ = 184.00 Cu yd.

(8) STA 13.37.23 - 13+60 L = 22.77

Excav: [(3.75)(6.08) + (9.5)(14.6) + (13.5)(5.11) + (2)(2)(1)] 22.77
= 5339.22 ft³ = 197.74 Cu yd.

Backfill: [(1)(1.33) + (3.75)(4.75) + (2.75)(1.33) + (8.02)(10.83)
+ (3)(1.01) + (9)(3.45) + (1)(1.66)] (22.77)
= 3310.68 ft³ = 122.61 Cu yd.

(9) STA 13+60 – 14+00 L = 40

Excav: [(3.75)(5.54) + (9)(15.5) + (14.5)(8.02) + (2)(2)(1)] 40
= 11257.7 ft³ = 416.94 Cu yd.

Backfill: [(1)(1.33) + (3.75)(4.21) + (2.25)(1.33) + (7.54)(10.47)
+ (3.5)(2.72) + (9.28)(6.42) + (1)(1.66)] 40

= 6792.45 ft³ = 251.57 Cu yd

(10) STA 14+00 – 14+40 L = 40

Excav: [(3.75)(5.49) + (8.5)(12.95) + (15.5)(5.58) + (2)(2)(1)] 40
= 8846.1 ft³ = 327.63 Cu yd.

Backfill: [(1)(1.33) + (3.75)(4.16) + (.29)(1.33) + (7.04)(10.47)
+ (4)(2.72) + (9.77)(3.92) + (1)(1.66)](40)
= 5674.51 ft³ = 210.16 Cu yd.

(11) STA 14+40 – 14+80 L = 40

Excav: [(3.75)(5.54) + (7.75)(10.3) + (2)(1)] 40
= 4104 ft³ = 152 Cu yd.

Backfill: [(2)(1)(1.33) + (3.75)(4.21) + (6.29)(8.92)] 40
= 2994.75 ft³ = 110.91 Cu yd

(12) STA 14+80 – 15+20 L = 40

Excav: [(3.75)(7.61) + (7.75)(12.12) + (2)(1)] 40
= 4978.7 ft³ = 184.39 Cu yd.

Backfill: [(2)(1)(1.33) + (3.75)(6.28) + (6.26)(10.79)](40)
= 3750.21 ft³ = 138.89 Cu yd.

BY GRG JOB RW #2, 4 & 6 4 4

DATE 5/2012 SUBJECT Excavation & Backfill

DS-D 18 (REV. 3/83)

(13) STA 15+20 – 15+74.59 L=54.59

Excav: [(3.25)(7.44) + (6.25)(10.5) + (1.33)(.67)] 54.59
= 4951.10 ft^3 = 183.37 cu yd.

Backfill: [(2)(1)(1.33) + (3.25)(6.11) + (4.84)(9.17)] 54.59'
= 3652.08 ft^3 = 135.26 cu yd.

Summary
Σ Excavation: 2670.7 cu yd

Σ Backfill: 1707.62 cu yd.

CSP 07 104322

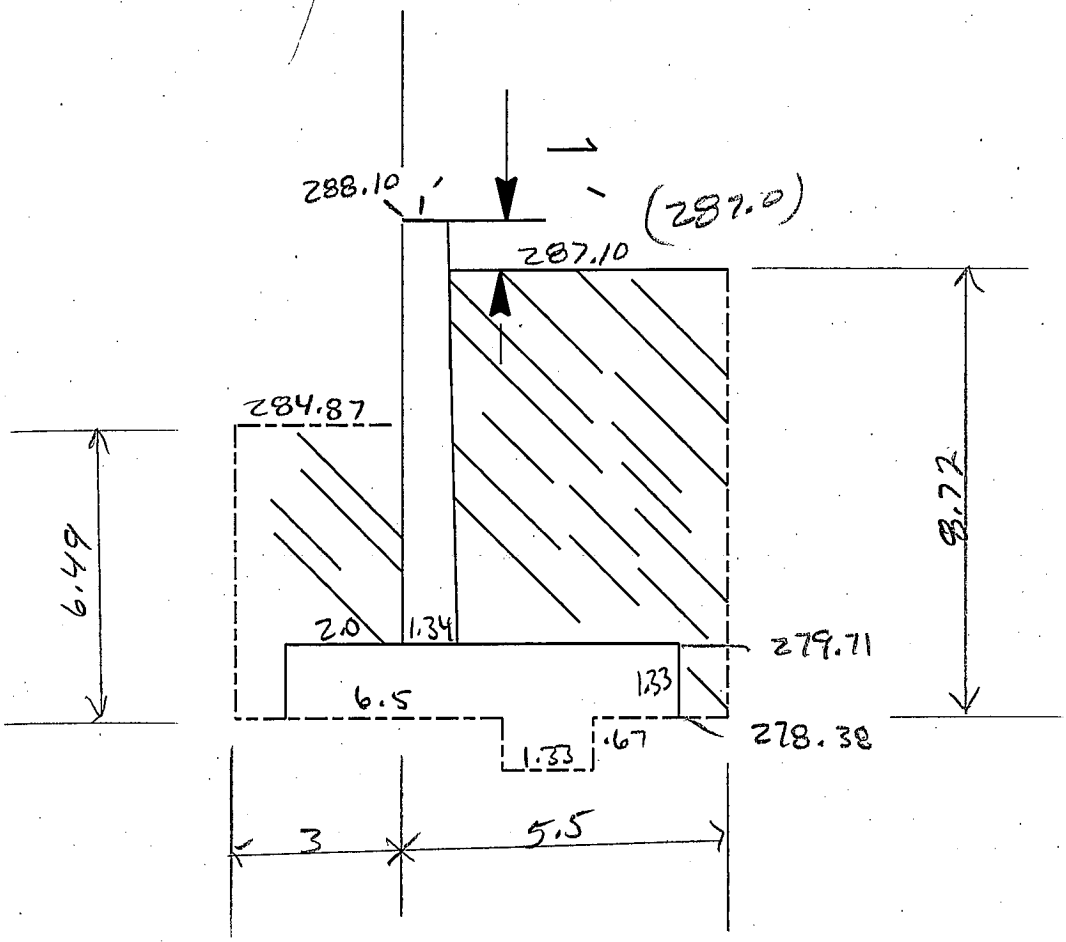
(1) STA 11+24 - 11+45.5 H = 8 L = 21.5

11+45.5 - 11+50 RETURN WALL Excavation & Backfill included in 11+50 - 11+80

BACKFILL

EXCAVATION

#4 RW LOL

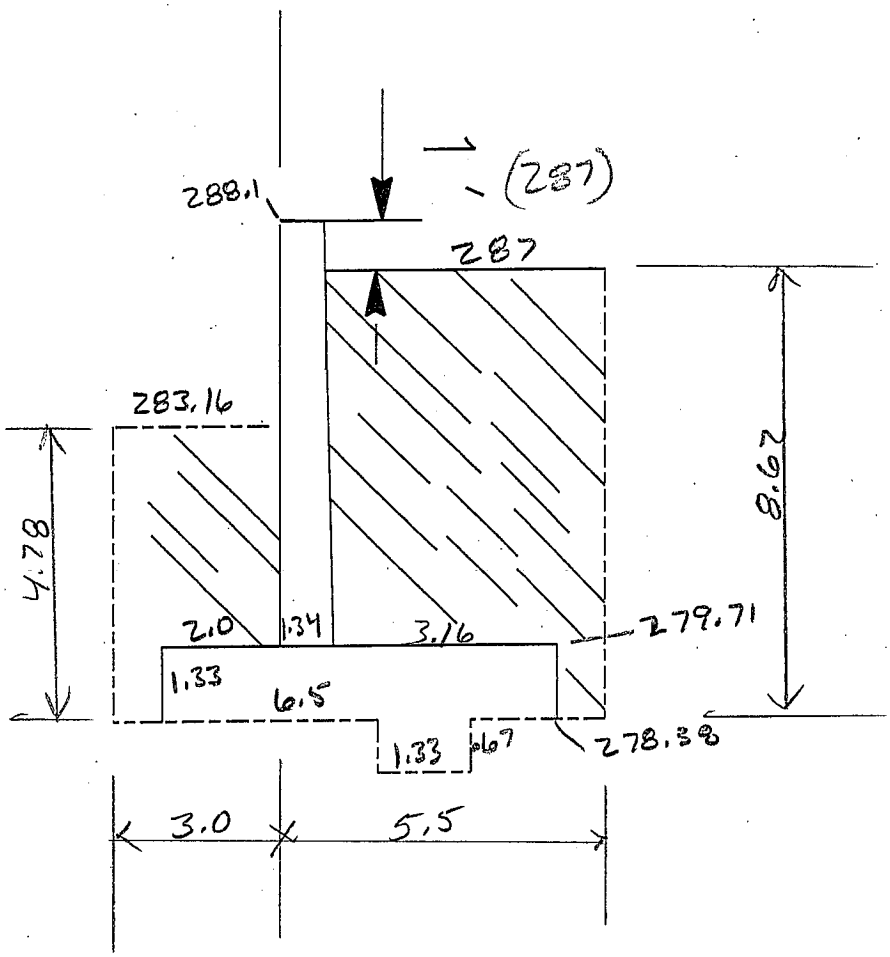


② STA 11+50 – 11+80 H=8 L=30'

BACKFILL

EXCAVATION

#4 RW LOL

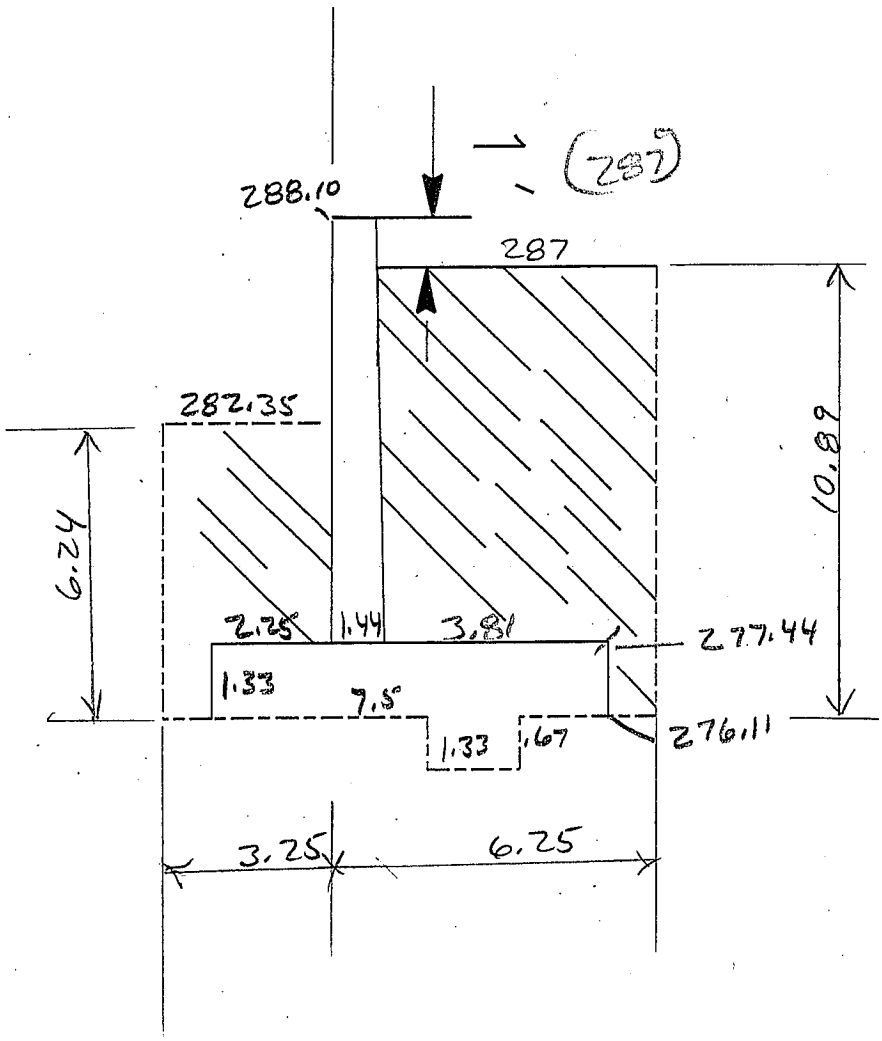


③ STA 11+80 - 12+00 L=20 H=10

BACKFILL

EXCAVATION

#4 RW LOL

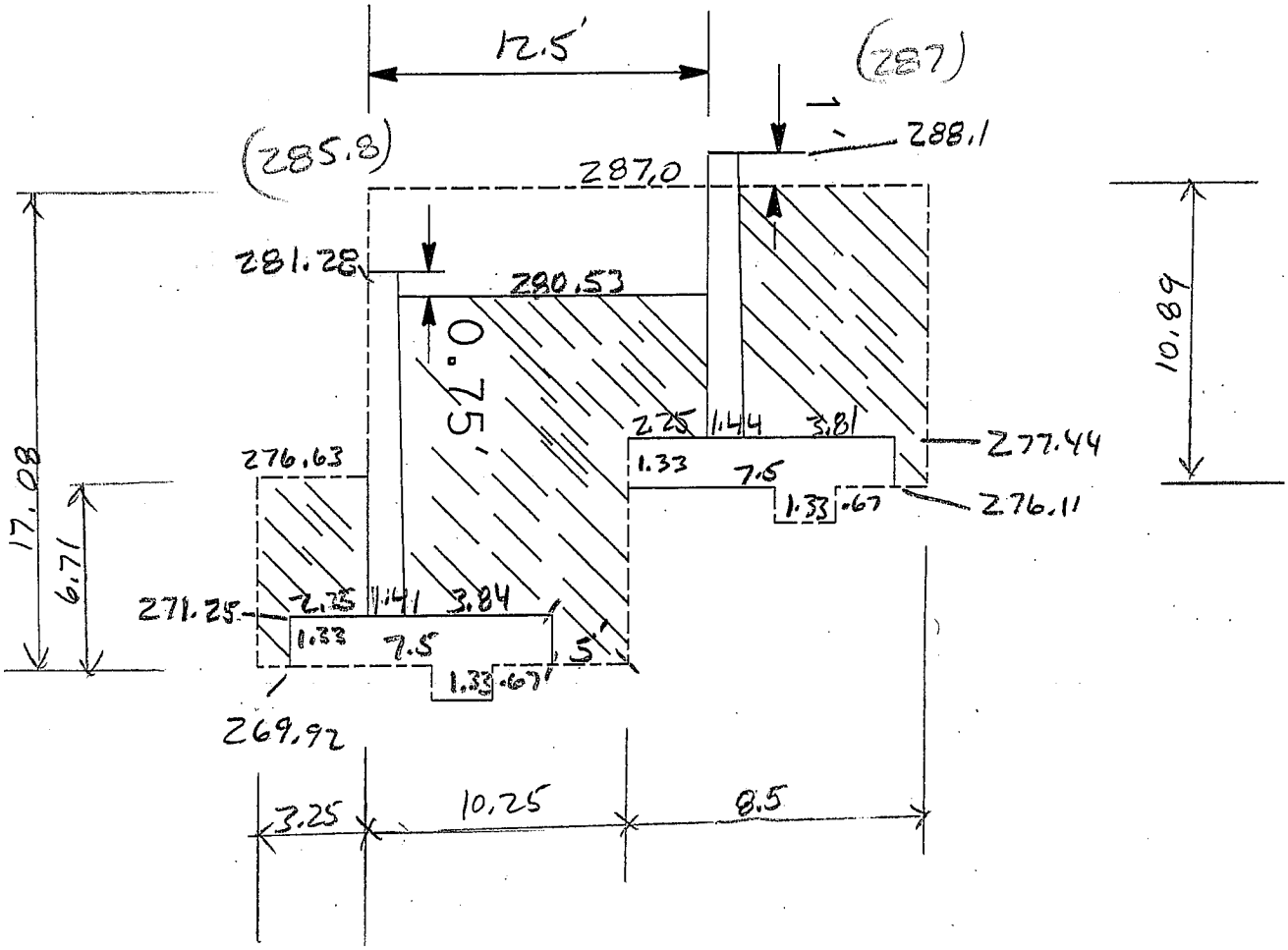


④ STA 12+00 - 12+56.0

BACKFILL

EXCAVATION

H = 10 #2 RW LOL #4RW LOL H=10

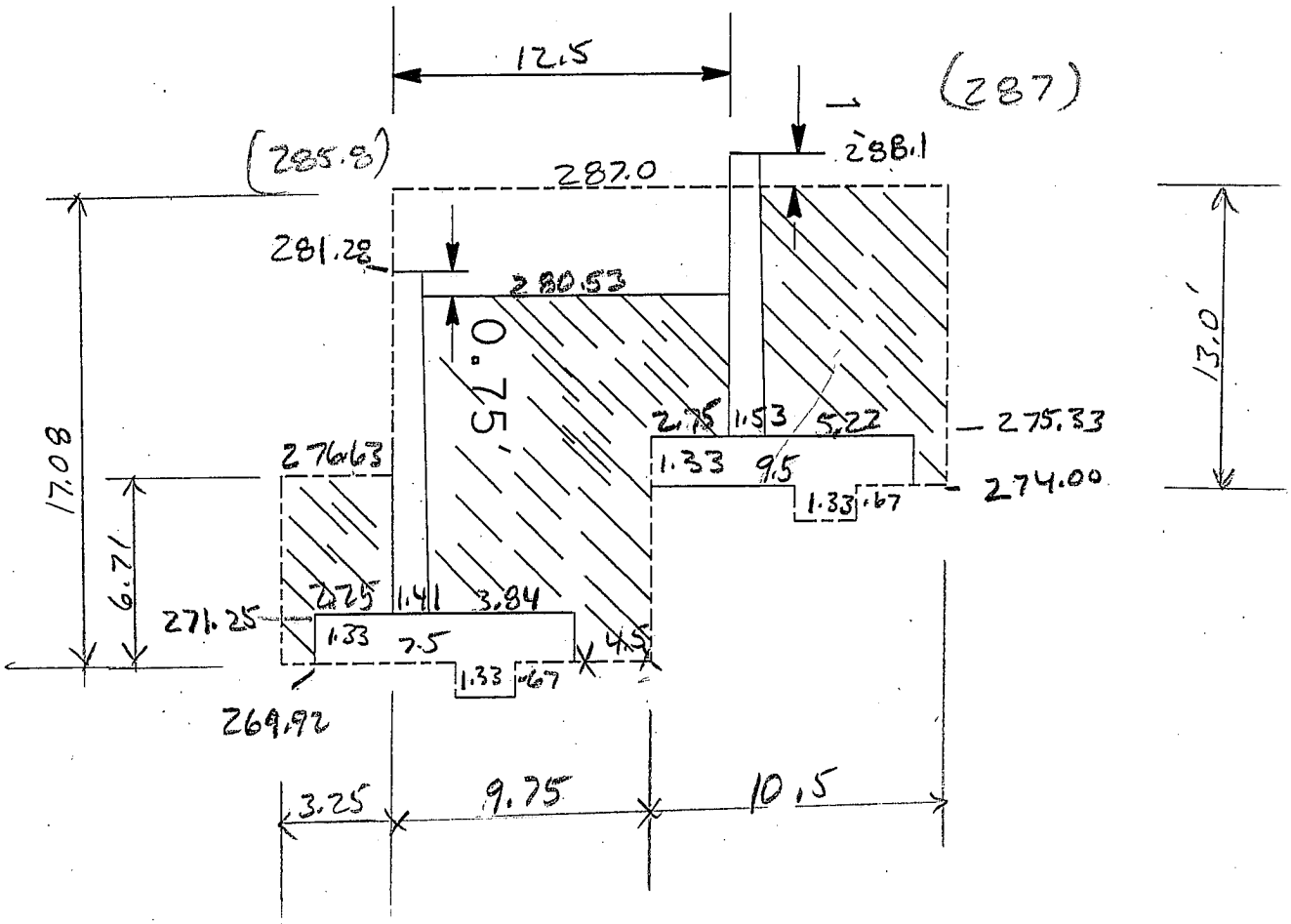


(5) STA 12+56 – 12+66
END RW #4

BACKFILL

EXCAVATION

H=10 # 2 RW LOL #4 RW LOL H=12

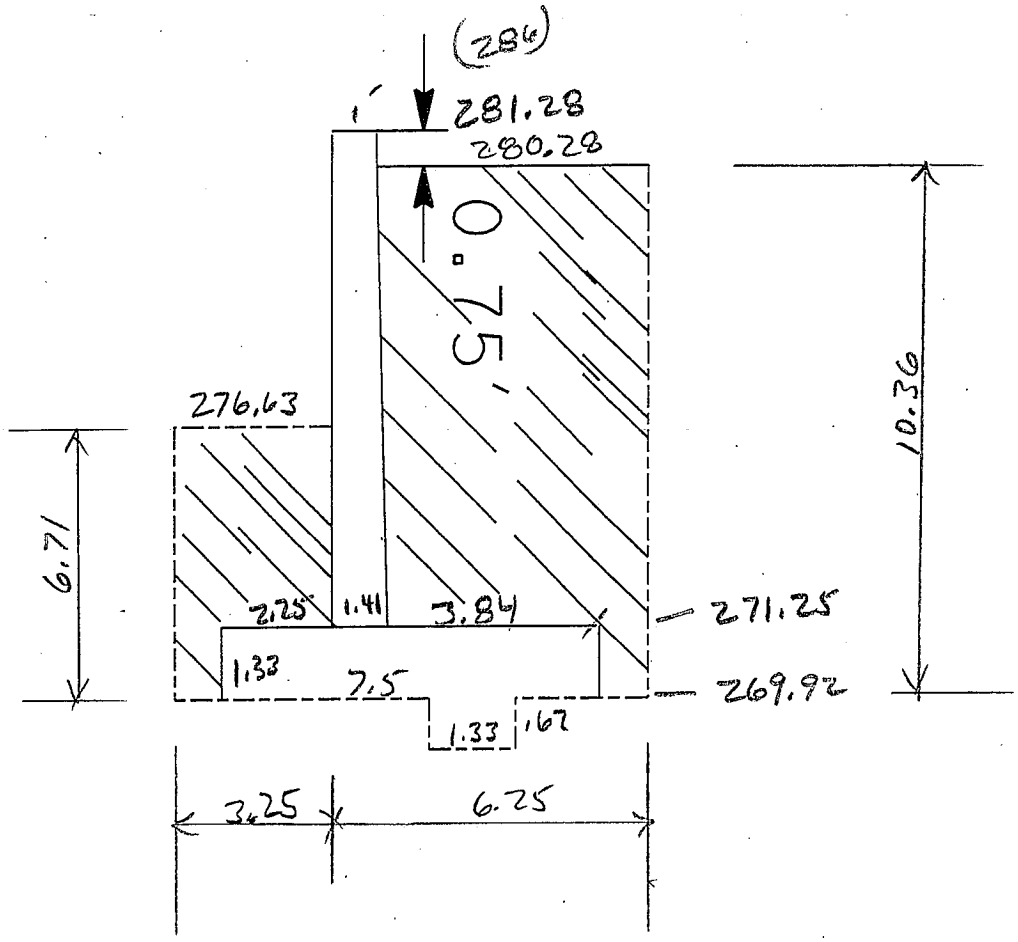


(6) STA 12+66 — 12+80 H = 10 L = 14'

BACKFILL

EXCAVATION

RW LOL #2

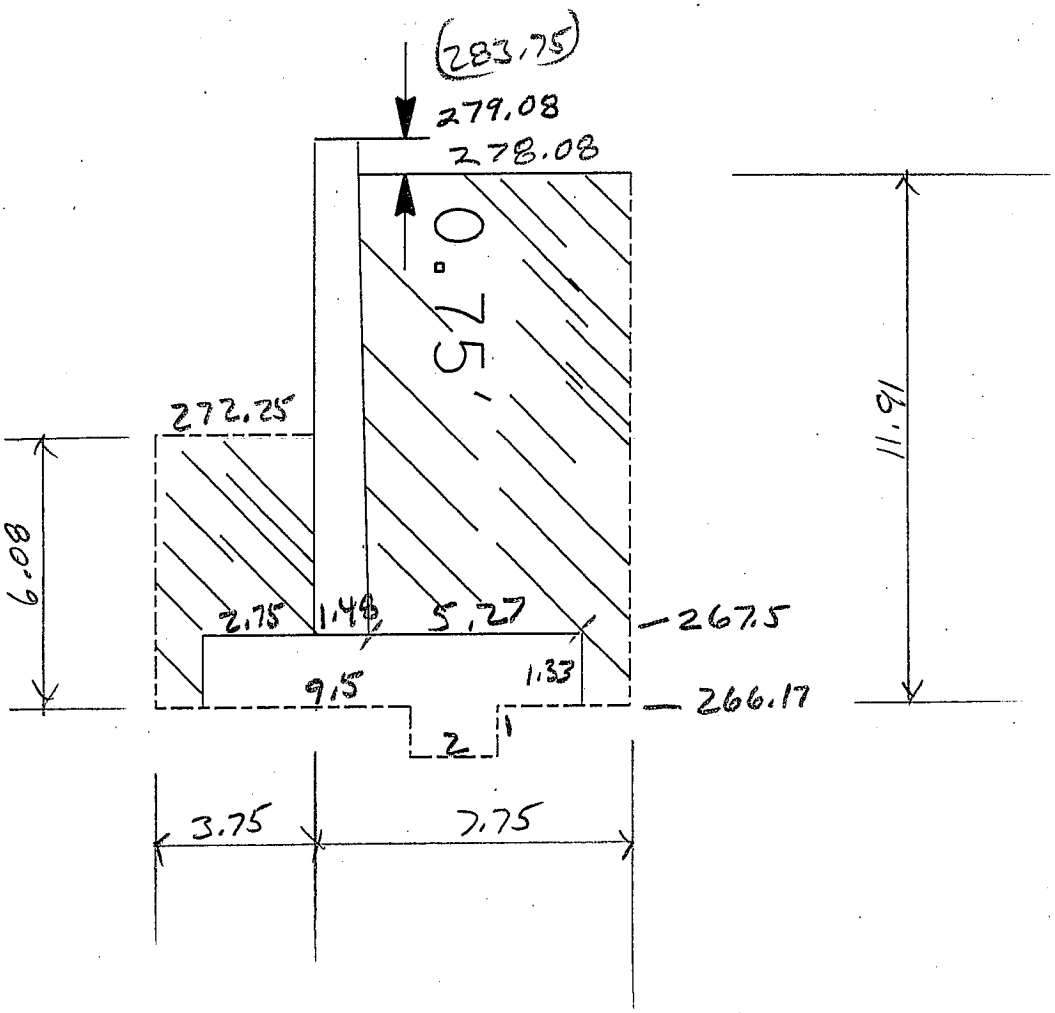


⑨ STA 12+80-13+37.23 H=12 L= 57.23

BACKFILL

EXCAVATION

#2 RW LOL



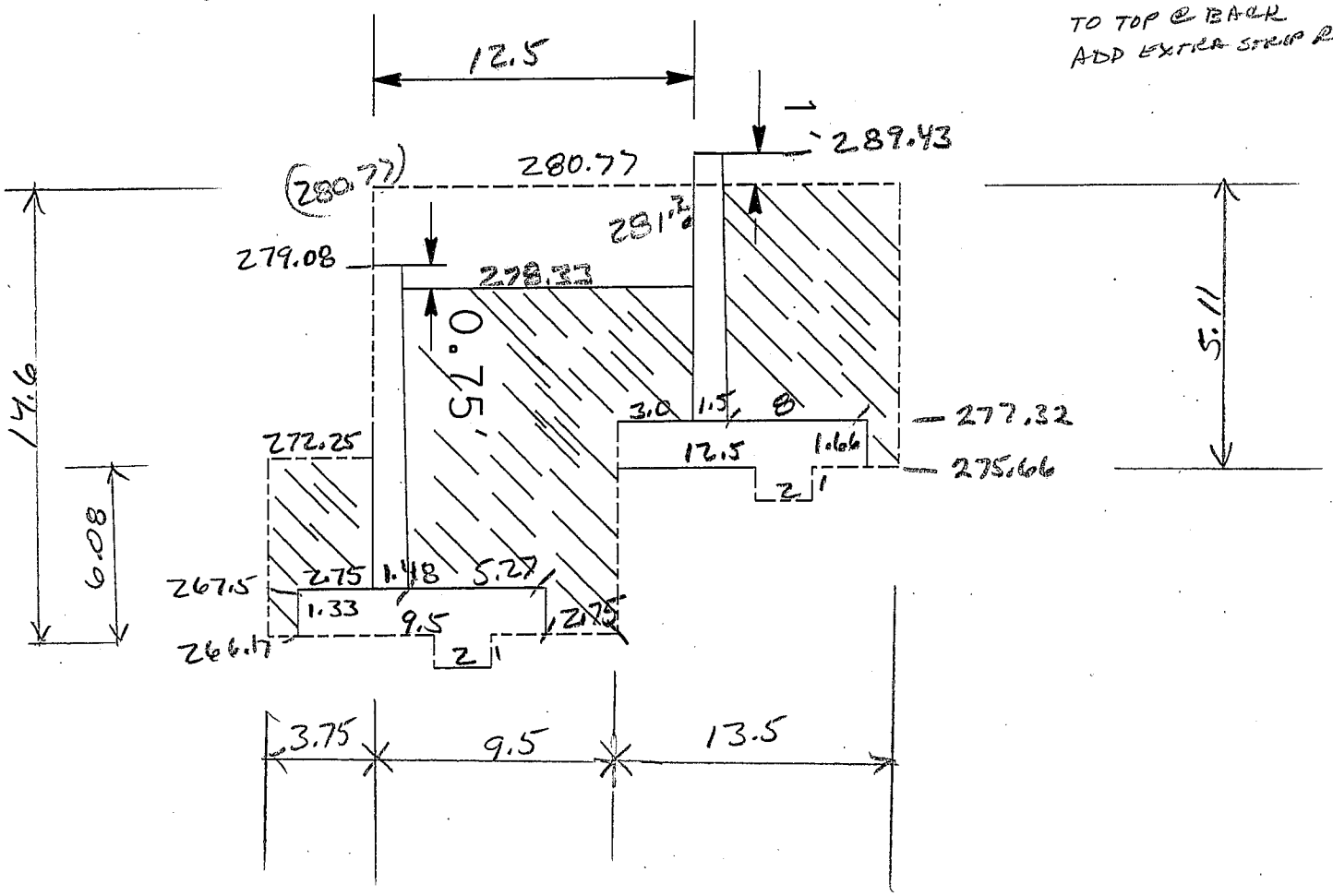
(8) STA 13+37.23 – 13+60 L = 22.77

BACKFILL

EXCAVATION

H = 12 #2 RW LOL #6 RW LOL H = 14

TO TOP @ BACK
ADD EXTRA STRIP REINF #6



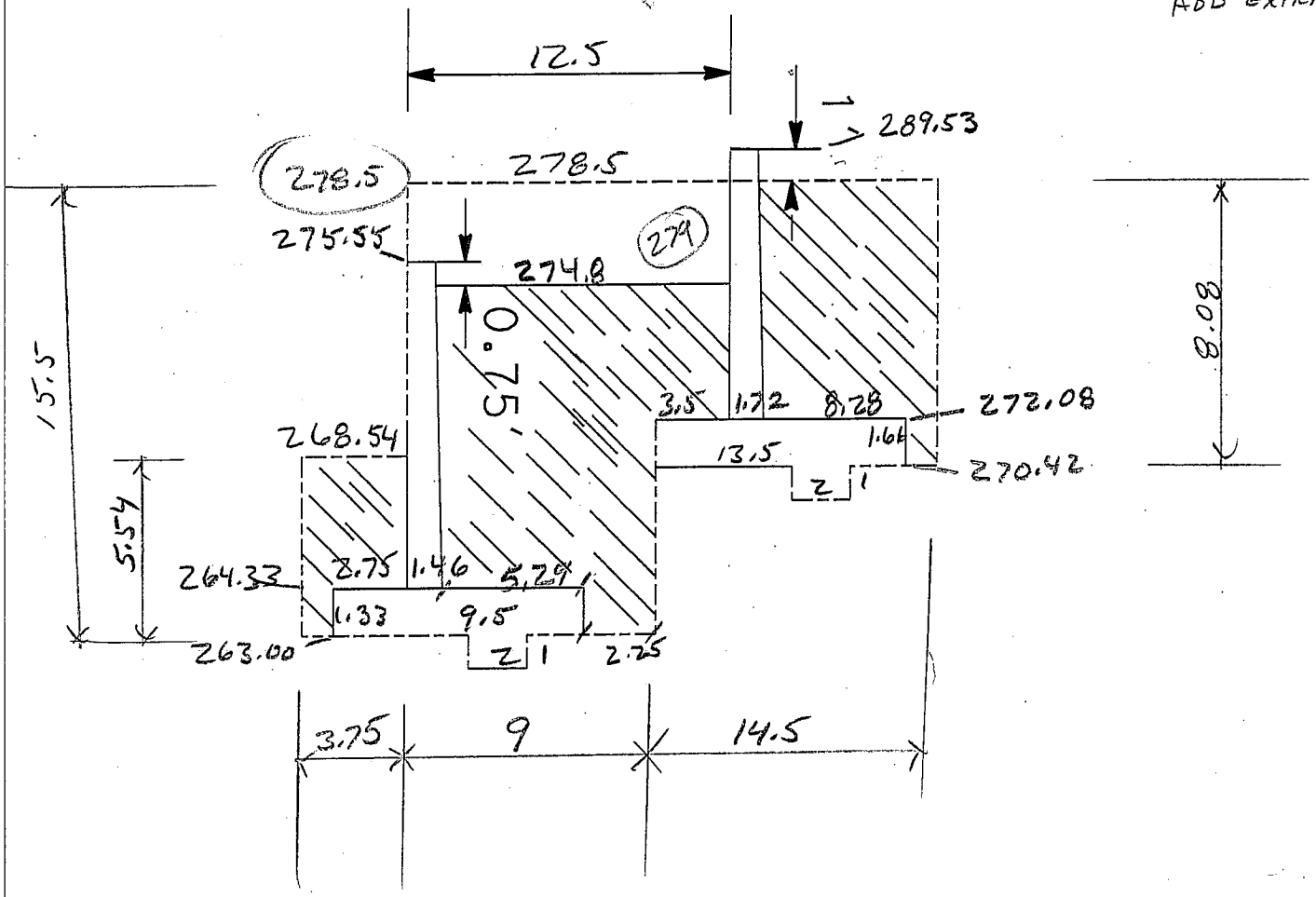
⑨ STA 13+60 - 14+00 L=40

BACKFILL

EXCAVATION

TO TOP @ BACK ADD EXTRA STRIP #6

H=12 #2 RW LOL #6 RW LOL H=16



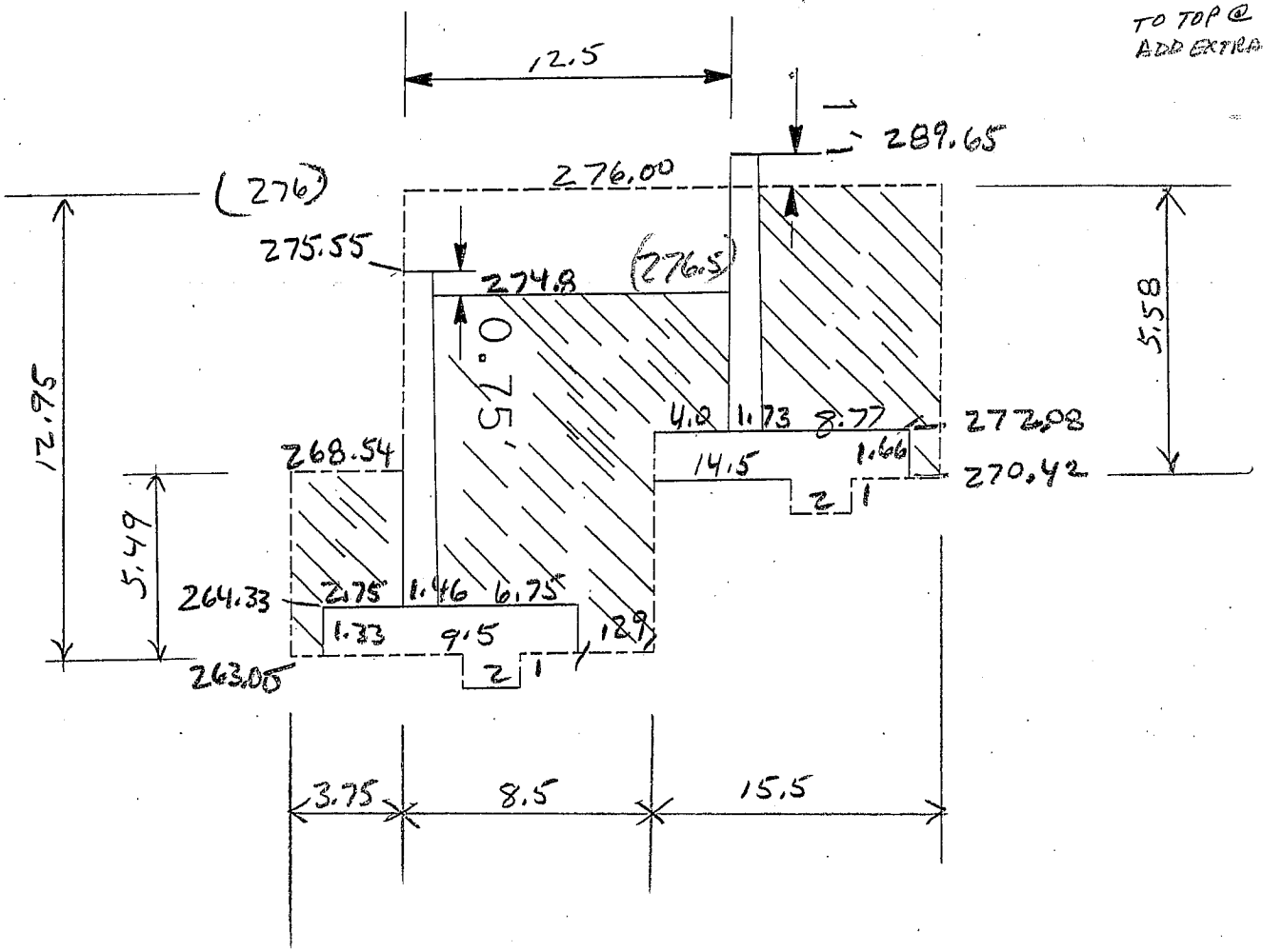
(10) STA 14+00 – 14+40
END RW #6

BACKFILL

EXCAVATION

H=12 #2 RW LOL #6 RW LOL H=18

TO TOP @ BACK
ADD EXTRA STRIP RW #6

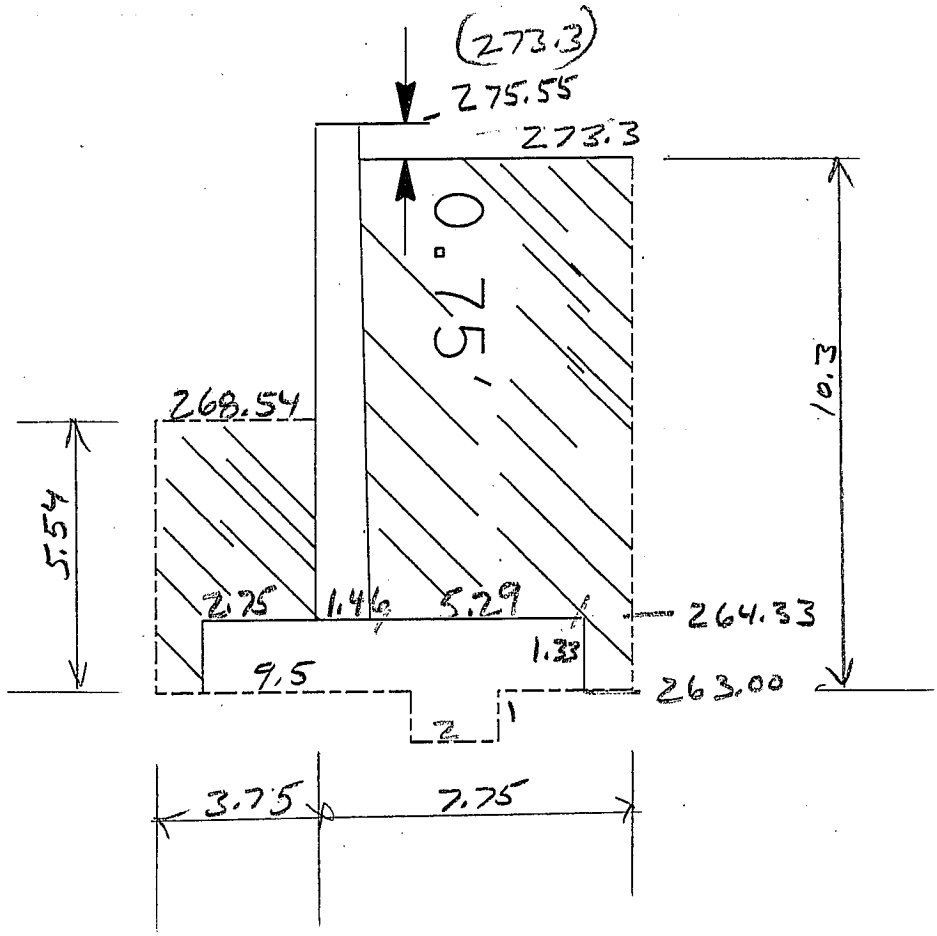


(11) STA 14+40 – 14+80 · L=40 H=12

BACKFILL

EXCAVATION

#2 RW LOL

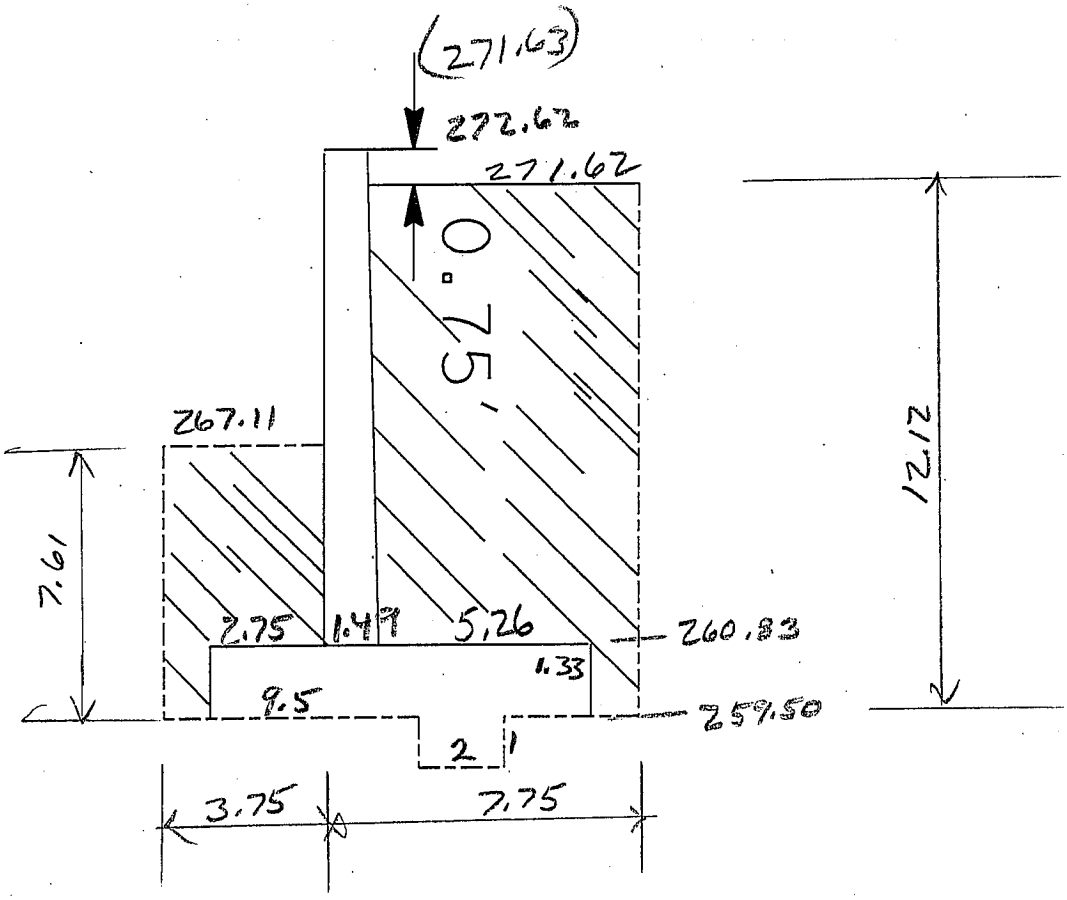


(12) STA 14+80 -15+20 L=40 H=12

BACKFILL

EXCAVATION

#2 RW LOL

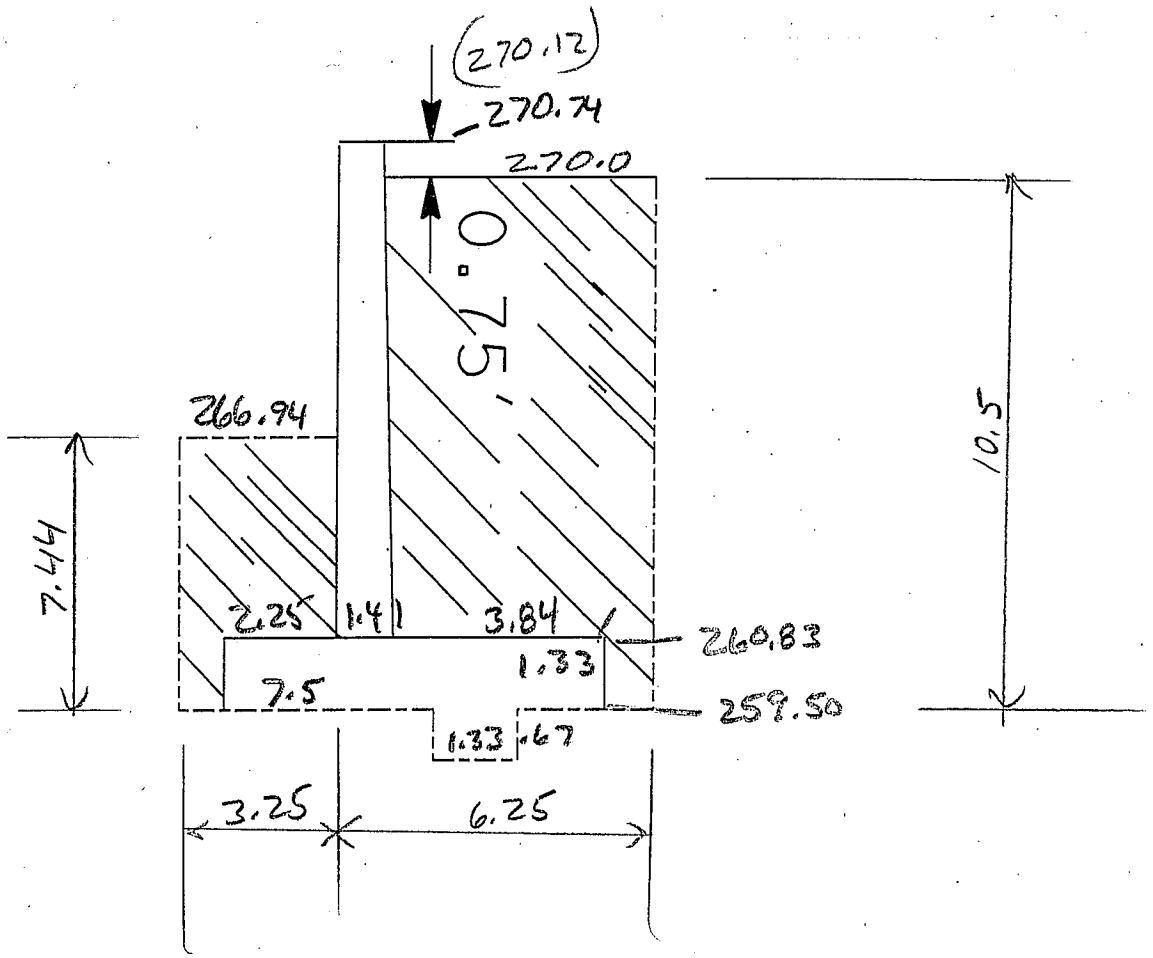


(13) STA 15+20 – 15+74.59 L=54.59
H = 10'

BACKFILL

EXCAVATION

#2 RW LOL



STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION

QUANTITY CALCULATIONS

DC-CEM-4801 (OLD HC-52 REV. 11/92) 7541-3520-0

SHEET 1 OF 1

JOB STAMP

ITEM: Concrete Quantity

LOCATION: RW # 4 & #6

SEGREGATION: YES ☐ NO ☐

FILE NO:

CALC BY: GRG

DATE: 5/2012

CHK BY:

DATE:

Pedistal Concrete.

$= \left[2\left(\frac{1}{2}\right)(1.91)(1.91) + (2)(1.91)\right] 5' = 37.34\ (2\ Posts) = 74.68\ ft^3$

$= 2.76$ cu yd.

POSTED BY

DATE

POSTED TO

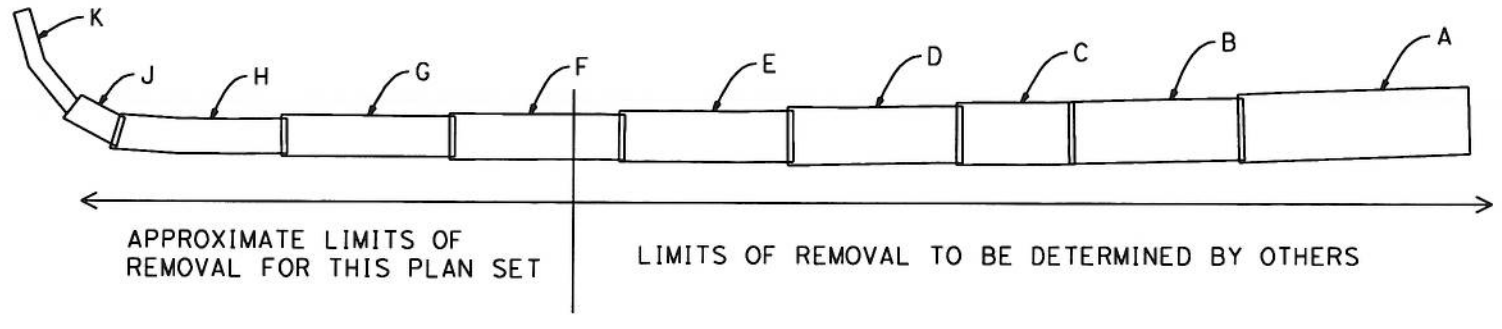
Existing Retaining Wall Dimensions and Removal Quantities

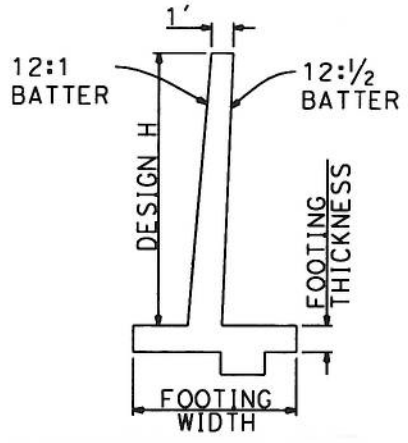
H	W	C	B	F	Key
8	5.17	1.67	3.50	1.17	0.89
10	6.17	2.00	4.17	1.17	0.89
12	7.17	2.33	4.83	1.17	2.00
14	8.00	2.67	5.33	1.17	2.00
16	9.00	3.00	6.00	1.17	2.00
18	10.00	3.33	6.67	1.17	2.00
20	11.00	3.67	7.33	1.33	2.00
22	12.00	4.00	8.00	1.50	2.00

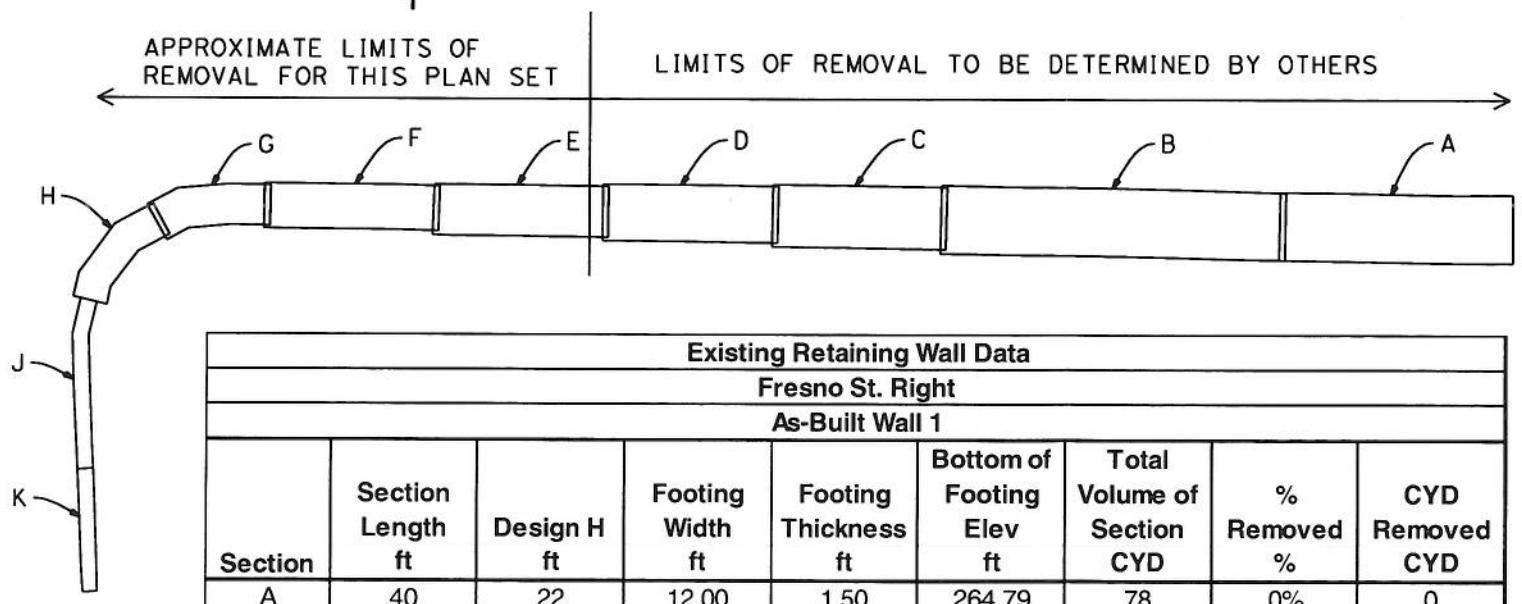
Wall 1 (Fresno St. Right)										-2.11	Footing					Stem			Total		Removal	
Section	Start	End	L	H	C	B	W	F	Bottom Footing	Conversion	Step At End	Step Volume	Key Length	Key Volume	Footing Volume	Footing Total	Top Thick	Bottom Thick	Stem Volume				
									ft	ft		ft²	ft	ft³	ft3	ft³	in	in	ft³	ft³	CYD	%	CYD
A			40	22	4.00	8.00	12.00	1.50	266.90	264.79	x	27.60	41	82.0	720.0	829.6	12	23.0	1283.3	2113	78	0%	0
B			60	22	4.00	8.00	12.00	1.50	269.20	267.09	x	27.17	60	120.0	1080.0	1227.2	12	23.0	1925.0	3152	117	0%	0
C			30	20	3.67	7.33	11.00	1.33	271.67	269.56	x	17.60	30	60.0	440.0	517.6	12	22.0	850.0	1368	51	0%	0
D			30	18	3.33	6.67	10.00	1.17	273.43	271.32	x	17.10	30	60.0	350.0	427.1	12	21.0	742.5	1170	43	0%	0
E			30	16	3.00	6.00	9.00	1.17	275.33	273.22	x	16.80	30	60.0	315.0	391.8	12	20.0	640.0	1032	38	90%	34
F			30	14	2.67	5.33	8.00	1.17	277.43	275.32	x	12.90	30	60.0	280.0	352.9	12	19.0	542.5	895	33	100%	33
G			20	12	2.33	4.83	7.17	1.17	279.23	277.12	x	8.02	20	40.0	167.2	215.2	12	18.0	300.0	515	19	100%	19
H			20	10	2.00	4.17	6.17	1.17	280.53	278.42	x	17.08	20	17.8	143.9	178.8	12	17.0	241.7	420	16	100%	16
J			30						283.30	281.19	x									846	31	100%	31
K			20						285.00	282.89										248	9	100%	9
																						Total =	143

Wall 2 (Fresno St. Left)										-2.11	Footing					Stem			Total		Removal	
Section	Start	End	L	H	C	B	W	F	Bottom Footing	Conversion	Step At End	Step Volume	Key Length	Key Volume	Footing Volume	Footing Total	Top Thick	Bottom Thick	Stem Volume				
									ft	ft		ft³	ft	ft³	ft3	ft³	in	in	ft³	ft³	CYD	%	CYD
A	551.13	591.13	40	22	4.00	8.00	12.00	1.50	266.70	266.70	x	29.37	41	82.0	720.0	831.4	12	23.0	1283.3	2115	78	0%	0
B	591.13	621.13	30	20	3.67	7.33	11.00	1.33	269.37	269.37	x	11.00	30	60.0	440.0	511.0	12	22.0	850.0	1361	50	0%	0
C	621.13	641.13	20	20	3.67	7.33	11.00	1.33	270.37	270.37	x	11.60	20	40.0	293.3	344.9	12	22.0	566.7	912	34	0%	0
D	641.13	671.13	30	18	3.33	6.67	10.00	1.17	271.53	271.53	x	13.50	30	60.0	350.0	423.5	12	21.0	742.5	1166	43	0%	0
E	671.13	701.13	30	16	3.00	6.00	9.00	1.17	273.03	273.03	x	16.00	30	60.0	315.0	391.0	12	20.0	640.0	1031	38	0%	0
F	701.13	731.13	30	14	2.67	5.33	8.00	1.17	275.03	275.03	x	12.90	30	60.0	280.0	352.9	12	19.0	542.5	895	33	70%	23
G	731.13	761.13	30	12	2.33	4.83	7.17	1.17	276.83	276.83	x	12.33	30	60.0	250.8	323.2	12	18.0	450.0	773	29	100%	29
H	761.13	791.13	30	10	2.00	4.17	6.17	1.17	278.83	278.83	x	11.37	30	26.7	215.8	253.9	12	17.0	362.5	616	23	100%	23
J	791.13	801.13	10	8	1.67	3.50	5.17	1.17	281.03	281.03	x	9.15	10	8.9	60.3	78.3	13	17.0	100.0	178	7	100%	7
K	801.13	801.13	20						282.80	282.80										569	21	100%	21
																						Total =	102

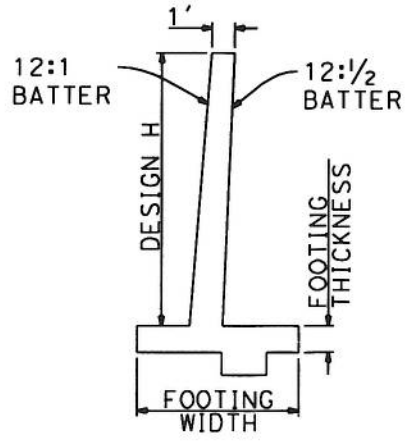
Existing Retaining Wall Data								
Fresno St. Left								
As-Built Wall 2								
Section	Section Length ft	Design H ft	Footing Width ft	Footing Thickness ft	Bottom of Footing Elev ft	Total Volume of Section CYD	% Removed %	CYD Removed CYD
A	40	22	12.00	1.50	266.70	78	0%	0
B	30	20	11.00	1.33	269.37	50	0%	0
C	20	20	11.00	1.33	270.37	34	0%	0
D	30	18	10.00	1.17	271.53	43	0%	0
E	30	16	9.00	1.17	273.03	38	0%	0
F	30	14	8.00	1.17	275.03	33	70%	23
G	30	12	7.17	1.17	276.83	29	100%	29
H	30	10	6.17	1.17	278.83	23	100%	23
J	10	8	5.17	1.17	281.03	7	100%	7
K	20	Gravity Wall			282.80	21	100%	21







Existing Retaining Wall Data								
Fresno St. Right								
As-Built Wall 1								
Section	Section Length ft	Design H ft	Footing Width ft	Footing Thickness ft	Bottom of Footing Elev ft	Total Volume of Section CYD	% Removed %	CYD Removed CYD
A	40	22	12.00	1.50	264.79	78	0%	0
B	60	22	12.00	1.50	267.09	117	0%	0
C	30	20	11.00	1.33	269.56	51	0%	0
D	30	18	10.00	1.17	271.32	43	0%	0
E	30	16	9.00	1.17	273.22	38	90%	34
F	30	14	8.00	1.17	275.32	33	100%	33
G	20	12	7.17	1.17	277.12	19	100%	19
H	20	10	6.17	1.17	278.42	16	100%	16
J	30	Gravity Wall			281.19	31	100%	31
K	20	Gravity Wall			282.89	9	100%	9



STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION

QUANTITY CALCULATIONS

DC-CEM-4801 (OLD HC-52 REV. 11/92) 7541-3520-0

SHEET 1 OF 2

JOB STAMP

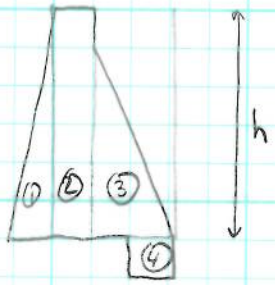
ITEM RW 1,2,3,4,5,6 | FILE NO.

LOCATION Bridge Removal | SEGREGATION YES ☐ NO ☐

CALC. BY R Melko | DATE 5/25/12

CHK. BY | DATE

Calculate Volume of J and K



① $\frac{1}{2}\, b\, h$ $\quad b = \frac{h}{12} \rightarrow \frac{1}{2}\frac{h^2}{12} = \frac{h^2}{24}$

② $1 \times h$

③ $\frac{1}{2}\, b\,(h-1)$ $\quad b = \frac{(h-1)}{12} \times 3 \rightarrow \frac{1}{2}\frac{3(h-1)^2}{12} = \frac{(h-1)^2}{8}$

④ 1×1

$$\text{Total} = \left(\frac{h^2}{24}\right) + (1 \times h) + \left(\frac{(h-1)^2}{3}\right) + (1 \times 1)$$

J → Average h

292 − 283.3 = 8.7'

290 − 283.3 = 6.7'

$$h_{avg} = \frac{(10)(8.7) + (20)(7.7)}{30} = 8.03'$$

K → Average h

290 − 285 = 5.0'

POSTED BY | DATE | POSTED TO

QUANTITY CALCULATIONS

DC-CEM-4801 (OLD HC-52 REV. 11/92) 7541-3520-0

JOB STAMP

ITEM RW 1,2,3,4,5,6 | FILE NO

LOCATION Bridge Removal | SEGREGATION YES NO

CALC BY RMelko | DATE 5/25/12

CHK BY | DATE

Volume

J → Total = $\left(\frac{8.03^2}{24}\right) + (1)(8.03) + \left(\frac{(8.03-1)^2}{8}\right) + (1)(1) = 28.19\ ft^2$

K → Total = $\left(\frac{5^2}{24}\right) + (1)(5) + \left(\frac{(5-1)^2}{8}\right) + (1)(1) = 12.38\ ft^2$

J → Volume = $(28.19)(30) = 845.7\ ft^3$

K → Volume = $(12.38)(20) = 247.6\ ft^3$

Well 2

K → h = 290.87 - 282.80 = 8.07

Area = Total = $\left(\frac{8.07^2}{24}\right) + (1)(8.07) + \left(\frac{(8.07-1)^2}{8}\right) + (1)(1) = 28.45\ ft^2$

Volume = $(28.45\ ft^2)(70') = 568.90\ ft^3$

POSTED BY DATE POSTED TO